

# EXHIBIT G



CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

1

1 UNITED STATES DISTRICT COURT  
 2 DISTRICT OF MINNESOTA  
 3 -----  
 4 In Re:  
 5 Bair Hugger Forced Air Warming  
 6 Products Liability Litigation  
 7  
 8 This Document Relates To:  
 9 All Actions MDL No. 15-2666 (JNE/FLM)  
 10 -----  
 11  
 12  
 13 DEPOSITION OF RICHARD P. WENZEL, M.D., MSc.  
 14 VOLUME I, PAGES 1 - 370  
 15 AUGUST 4, 2017  
 16  
 17  
 18 (The following is the deposition of RICHARD  
 19 P. WENZEL, M.D., MSc., taken pursuant to Notice of  
 20 Taking Deposition, via videotape, at the Hausfeld law  
 21 firm, 1700 K Street Northwest, Suite 650, in the City  
 22 of Washington, District of Columbia, commencing at  
 23 approximately 9:08 o'clock a.m., August 4, 2017.)  
 24  
 25

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1 Filtration Levels, Dirkes, et al, 1  
 pg.  
 2 4 Richard Putnam Wenzel, Curriculum  
 Vitae  
 3 5 EXHIBIT B, Chart of Materials Sent  
 to Dr. Richard Wenzel, 21 pgs.  
 4 6 Group exhibit, Letters, Briley and  
 Wenzel to Blackwell Burke and hours  
 5 and expenses  
 6 7 Letters, Wenzel and Briley to  
 Blackwell burke and hours  
 7 8 Article, INFECTION IN EXPERIMENTAL  
 HIP ARTHROPLASTIES, Southwood, et  
 al, Journal of Bone and Joint, Vol.  
 8 67-B, No 2. March 1985  
 9 Article, A New Model of  
 9 Experimental Prosthetic Joint  
 Infection Due to  
 10 Methicillin-Resistant  
 Staphylococcus aureus: A  
 11 Microbiologic, Histopathologic, and  
 Magnetic Resonance Imaging  
 12 Characterization, Belmatoug, et al,  
 Journal of Infectious Diseases,  
 13 1996, 174  
 10 email string, Wenzel to Darouiche,  
 14 4/7, 2017, 6 pgs.  
 11 Article, Airborne bacterial  
 15 contamination during orthopedic  
 surgery: A Randomized controlled  
 16 pilot trial, Journal of Clinical  
 Anesthesia, 2017 - with markings  
 17 12 Article, Forced-Air Warming Does  
 Not Worsen Air Quality in Laminar  
 18 Flow Operating Rooms, Sessler, et  
 al, Anesthesia, 2011, with markings  
 19 13 Excerpt, A Guide to Infection  
 Control in the Hospital, Fourth  
 20 Edition, Wenzel, et al, including  
 Chapter 21  
 21  
 22  
 23  
 24  
 25

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1 APPEARANCES:  
 2 On Behalf of the Plaintiffs:  
 3 Gabriel Assaad  
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 5 Houston, Texas 77006  
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 13 Corey L. Gordon  
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16 ALSO PRESENT:  
 17 Ronald M. Huber, Videographer

18	EXAMINATION INDEX	
19	EXAMINED BY	PAGE
19	Dr. Wenzel	Mr. Assaad

21	EXHIBIT	DESCRIPTION	PAGE
22	1	Expert Report, Richard P. Wenzel, 79 pgs.	
23	2	Dr. Richard Wenzel, Exhibit B, 3 pgs.	
24	3	Abstract, Convection Warming in the Operating Room: Evaluation of Bacterial Spread with Three	

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09:08:40 1 P R O C E E D I N G S  
 09:08:40 2 (Witness sworn.)  
 3 RICHARD P. WENZEL, M.D., MSc.,  
 4 Called as a witness, being first  
 5 duly sworn, was examined and  
 6 testified as follows:  
 7 EXAMINATION  
 8 BY MR. ASSAAD:  
 09:08:59 9 Q. Please state your name.  
 09:09:00 10 A. Richard Wenzel.  
 09:09:03 11 Q. And what's your current address?  
 09:09:05 12 A. 1420 Mosquito Point Road, White Stone,  
 09:09:09 13 Virginia. Home address you wanted.  
 09:09:11 14 Q. Yeah. And your business address, if you  
 09:09:13 15 have one?  
 09:09:14 16 A. The post office is P.O. Box 901, and again  
 09:09:17 17 White Stone, Virginia, 22578, so.  
 09:09:21 18 Q. Are you still affiliated with Virginia  
 09:09:25 19 Commonwealth University?  
 09:09:25 20 A. Yep. I'm still teaching. I'm sort of  
 09:09:28 21 formally retired, but they bring us back every now and  
 09:09:31 22 then. So I -- I teach.  
 09:09:33 23 Q. Have you had your deposition taken before?  
 09:09:36 24 A. Never.  
 09:09:37 25 Q. This is your first time?

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09:09:38 **1** **A.** Yeah.  
 09:09:39 **2** **Q.** Is this your first time being an expert  
 09:09:40 **3** witness in a case?  
 09:09:41 **4** **A.** No. I've been asked questions four other  
 09:09:44 **5** times. Want to hear about those, or?  
 09:09:47 **6** **Q.** Four other times?  
 09:09:48 **7** **A.** Yeah.  
 09:09:49 **8** **Q.** I'll get to that in a second.  
 09:09:51 **9** Since this is your first deposition I'm  
 09:09:53 **10** going to go through the rules very carefully.  
 09:09:55 **11** **A.** Sure.  
 09:09:55 **12** **Q.** I'm going to ask you numerous questions. If  
 09:09:57 **13** you don't understand the question, please let me know.  
 09:09:59 **14** Fair?  
 09:09:59 **15** **A.** Yes.  
 09:10:00 **16** **Q.** If you answer the question, I'll assume that  
 09:10:01 **17** you understood the question. Fair?  
 09:10:03 **18** **A.** Yes.  
 09:10:04 **19** **Q.** At any time you want to take a break, please  
 09:10:05 **20** let me know. I just ask that you request a break  
 09:10:07 **21** after you answer a pending question. Fair?  
 09:10:09 **22** **A.** Yes.  
 09:10:10 **23** **Q.** And if at any time you want to correct an  
 09:10:20 **24** answer later on that you gave previously, just please  
 09:10:23 **25** let me know, we can always go back.

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09:10:24 **1** **A.** Good.  
 09:10:25 **2** **Q.** Today I am representing over 2700 plaintiffs  
 09:10:28 **3** in a multidistrict litigation, and my goal is to  
 09:10:30 **4** understand all your opinions today and to understand  
 09:10:34 **5** what you are going to be testifying at trial.  
 09:10:36 **6** Do you understand that?  
 09:10:37 **7** **A.** Yes, I do.  
 09:10:37 **8** **Q.** So I want a clean record, and I don't want  
 09:10:39 **9** any -- if there's anything that needs to be corrected,  
 09:10:42 **10** it's better to correct it today because I will not  
 09:10:45 **11** have another opportunity -- or I may not have another  
 09:10:47 **12** opportunity to take your deposition again.  
 09:10:49 **13** Do you understand that?  
 09:10:50 **14** **A.** I do.  
 09:10:50 **15** **Q.** Okay. And also, for the court reporter,  
 09:10:58 **16** please wait till I finish my question before you begin  
 09:11:00 **17** answering even though you might know what the question  
 09:11:02 **18** is, and I'll also wait for your answer before I ask my  
 09:11:05 **19** next question so that we have a clean record and we  
 09:11:07 **20** don't upset the wonderful court reporter that's taking  
 09:11:10 **21** down all our words.  
 09:11:11 **22** Do you understand that?  
 09:11:12 **23** **A.** Yes.  
 09:11:23 **24** **Q.** Now you've been asked to be an expert in  
 09:11:24 **25** this case; correct?

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09:11:25 **1** **A.** That's right.  
 09:11:25 **2** **Q.** Okay. And you understand as an expert you  
 09:11:28 **3** are to be objective; correct?  
 09:11:29 **4** **A.** Yes.  
 09:11:30 **5** **Q.** Not an advocate for either side. You  
 09:11:33 **6** understand that.  
 09:11:33 **7** **A.** I'm not an advocate.  
 09:11:39 **8** **Q.** Okay. How is it that you became involved in  
 09:11:41 **9** this case?  
 09:11:43 **10** **A.** Guessing roughly two and a half years ago a  
 09:11:47 **11** representative from Greenberg Traurig called me.  
 09:11:50 **12** **Q.** And who was that?  
 09:11:52 **13** **A.** And it was Evan Holder.  
 09:11:55 **14** **Q.** Evan Holden?  
 09:11:57 **15** **A.** "Holder." "Holder," I think it is.  
 09:11:58 **16** **Q.** It's Holden.  
 09:11:59 **17** **A.** Is it? Sorry about that. Been awhile.  
 09:12:02 **18** **Q.** And that was for the Walton case?  
 09:12:04 **19** **A.** Yes, it was.  
 09:12:06 **20** **Q.** And do you know how --  
 09:12:08 **21** Were you referred to them by someone, or?  
 09:12:10 **22** **A.** He told me that he had spoken to Michelle  
 09:12:17 **23** Stevens and Michelle Stevens said I was an infectious  
 09:12:20 **24** disease person and he asked me if I'd look at the  
 09:12:23 **25** records.

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09:12:24 **1** **Q.** Do you know Michelle Stevens?  
 09:12:25 **2** **A.** I do.  
 09:12:26 **3** **Q.** How do you know Michelle Stevens?  
 09:12:28 **4** **A.** Roughly starting in 2009. As background, I  
 09:12:34 **5** had been invited to Mexico during the height of the  
 09:12:38 **6** H1N1 epidemic in April of 2009. It was a fascinating  
 09:12:43 **7** experience that you don't want to hear about right  
 09:12:46 **8** now, but about that time I recognized that the  
 09:12:50 **9** high-risk patients, this is before anybody knew  
 09:12:52 **10** anything, were obese patients and pregnant patients,  
 09:12:57 **11** and they were all about 21 years old. I made rounds  
 09:12:59 **12** in ICUs.  
 09:13:02 **13** I was asked by, I'm trying to think of her  
 09:13:07 **14** name, Deborah Gardner from -- who's an administrator  
 09:13:09 **15** with 3M, if I'd be willing to go to four countries in  
 09:13:13 **16** South America as part of their infection control  
 09:13:18 **17** education program. And I think that that first trip I  
 09:13:23 **18** think also involved Mexico. So that was later on in  
 09:13:27 **19** 2009, and I was very excited because I got a chance to  
 09:13:32 **20** go back to Mexico to get a follow-up of what I had  
 09:13:37 **21** observed, and also now it was the winter in South  
 09:13:41 **22** America so they were undergoing their own beginning  
 09:13:44 **23** epidemic --  
 09:13:44 **24** **Q.** I don't mean to interrupt. I don't need  
 09:13:46 **25** that much detail. I just want to know --

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09:13:47 **1** **A.** Okay.

09:13:49 **2** **Q.** -- how and when you met her.

09:13:50 **3** **A.** Okay. So that -- So basically on that trip,

09:13:51 **4** she came on the trip and she was a pediatric

09:13:57 **5** infectious disease, I was an adult infectious disease.

09:14:01 **6** Basically I wound up giving about three lectures per

09:14:04 **7** city in each country --

09:14:05 **8** **Q.** So you met her on the trip?

09:14:07 **9** **A.** -- and visited a lot of hospitals there.

09:14:09 **10** **Q.** Okay. You met her on the trip.

09:14:10 **11** **A.** Yeah.

09:14:10 **12** **Q.** Okay. In Mexico. Fair enough.

09:14:12 **13** Have you --

09:14:12 **14** Do you consult for 3M?

09:14:15 **15** **A.** One time I did.

09:14:16 **16** **Q.** At what time? At what period of time?

09:14:18 **17** **A.** Probably three, four years ago they asked me

09:14:20 **18** one question, if I would review a meta-analysis

09:14:25 **19** related to one of the drapes that they had. So

09:14:28 **20** unrelated to the Bair Hugger.

09:14:29 **21** **Q.** Okay. And were you paid for that?

09:14:32 **22** **A.** I was.

09:14:33 **23** **Q.** And how much -- how much per hour were you

09:14:36 **24** paid for that?

09:14:36 **25** **A.** Six hundred dollars an hour, and best that I

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09:14:38 **1** can remember it was about 10 hours.

09:14:44 **2** **Q.** Do you still keep in touch with Michelle

09:14:47 **3** Hulse Stevens?

09:14:48 **4** **A.** No, haven't.

09:14:49 **5** **Q.** You were issued a subpoena in this case. Do

09:14:57 **6** you recall that?

09:14:58 **7** **A.** I do.

09:14:58 **8** **Q.** Okay. And you reviewed the subpoena?

09:15:00 **9** **A.** I did.

09:15:00 **10** **Q.** Okay. And the subpoena requested that you

09:15:02 **11** produce documents by June 21st, 2017. Do you recall

09:15:05 **12** that?

09:15:06 **13** **A.** I do.

09:15:06 **14** **Q.** Did you produce all your documents that were

09:15:09 **15** responsive to the subpoena to counsel?

09:15:11 **16** **A.** Yeah. I actually pulled everything, sent it

09:15:14 **17** over to counsel and they sent it on.

09:15:16 **18** **Q.** Okay. What's been placed in front of you is

09:15:40 **19** a pile of documents that was produced to the

09:15:43 **20** plaintiffs today in response to your subpoena that

09:15:49 **21** were supposedly due to the plaintiffs on June 21st,

09:15:53 **22** 2017.

09:15:55 **23** Are those the documents that you produced to

09:15:58 **24** defense counsel in this case responsive to the

09:16:00 **25** subpoena?

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09:16:01 **1** **A.** I think --

09:16:01 **2** MR. COREY GORDON: I move --

09:16:01 **3** THE WITNESS: Wait. Okay.

09:16:02 **4** MR. COREY GORDON: -- to strike counsel's

09:16:03 **5** characterization and want to note for the record that

09:16:05 **6** we interposed an objection to certain of the subpoena

09:16:08 **7** requests. In the ensuing time period we have re --

09:16:12 **8** revisited those objections, and even though we

09:16:16 **9** believe that what -- that the stack of materials is

09:16:22 **10** -- would be protected, we have decided to waive that

09:16:25 **11** and go ahead and make that available to you, which we

09:16:32 **12** did today. So there -- You can now ask your

09:16:34 **13** question.

09:16:36 **14** BY MR. ASSAAD:

09:16:36 **15** **Q.** Did you produce those documents to your

09:16:37 **16** counsel by June 21st, 2017?

09:16:40 **17** **A.** Yeah. I made the deadline.

09:16:42 **18** **Q.** And would you agree with me that the stack

09:16:45 **19** is about a foot high?

09:16:46 **20** **A.** It's a foot high, yeah.

09:16:47 **21** **Q.** Okay. And that contains all of the articles

09:16:50 **22** that you reviewed?

09:16:52 **23** **A.** I don't know if it's all of them, but all

09:16:53 **24** the ones I underlined for sure.

09:16:55 **25** **Q.** Okay. So many of those documents have

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09:16:56 **1** underlines in them?

09:16:58 **2** **A.** Yeah. I'm kind of a nerd and underline a

09:17:00 **3** lot of stuff, yeah.

09:17:02 **4** **Q.** Okay. And many of those documents --

09:17:10 **5** MR. BEN GORDON: That was produced, too.

09:17:11 **6** That's also his.

09:17:12 **7** **Q.** Oh I forgot, we have another -- we have

09:17:15 **8** another thing to add to the pile so now it's over one

09:17:17 **9** foot. You agree?

09:17:18 **10** **A.** Yes, I do.

09:17:18 **11** **Q.** Okay. And so those documents are documents

09:17:20 **12** that you have highlights on, or underlines?

09:17:22 **13** **A.** Yes.

09:17:23 **14** **Q.** Documents that you have notes on?

09:17:24 **15** **A.** Yes.

09:17:25 **16** **Q.** You actually have actually handwritten notes

09:17:27 **17** on regular paper as well?

09:17:29 **18** **A.** I think I do. I don't --

09:17:31 **19** **Q.** If you look at --

09:17:32 **20** There's a yellow sheet there and a couple

09:17:35 **21** other sheets.

09:17:35 **22** **A.** Yeah.

09:17:36 **23** **Q.** Okay. You have -- You have deposition

09:17:37 **24** transcripts?

09:17:38 **25** **A.** I think I re --

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09:17:38 **1** Yeah. The ones that I looked at, yes.  
 09:17:41 **2 Q.** And you spent a lot of time on this case;  
 09:17:43 **3** correct?  
 09:17:43 **4 A.** I did.  
 09:17:44 **5 Q.** Okay. Do you think it's fair that I get a  
 09:17:46 **6** foot and a half set of documents on the day of your  
 09:17:50 **7** deposition to review when I only have seven hours to  
 09:17:52 **8** take your deposition?  
 09:17:53 **9** MR. COREY GORDON: I object to the  
 09:17:54 **10** question, lack of foundation. Also calls for a legal  
 09:17:57 **11** conclusion.  
 09:17:58 **12** As I noted, we interposed an objection.  
 09:18:01 **13** That's not Dr. Wenzel's decision. We also made the  
 09:18:04 **14** decision, the lawyers, to produce these in spite of  
 09:18:08 **15** what we believe to be a valid objection.  
 09:18:11 **16** MR. ASSAAD: Objection noted.  
 09:18:12 **17 Q.** Do you think it's fair, as a layman, that  
 09:18:16 **18** you, who spent over 300 hours on your report and  
 09:18:18 **19** reviewed all these documents, that I get a foot and a  
 09:18:21 **20** half or a foot and a quarter of documents on the day  
 09:18:24 **21** of your deposition?  
 09:18:25 **22** MR. COREY GORDON: Object to the form of  
 09:18:27 **23** the question, lack of foundation.  
 09:18:27 **24 Q.** You may answer.  
 09:18:29 **25 A.** So my view was to get the documents to the  
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09:18:32 **1** law offices, and after that it's their decision.  
 09:18:36 **2 Q.** I mean, do you think it'd be fair if I gave  
 09:18:38 **3** you a foot and a half of documents on the day of the  
 09:18:40 **4** deposition and expect you to answer questions on it?  
 09:18:42 **5** MR. COREY GORDON: Same objections.  
 09:18:44 **6 Q.** "Yes" or "no"? Do you think it's fair?  
 09:18:45 **7 A.** Well --  
 09:18:45 **8** MR. COREY GORDON: Same objections.  
 09:18:46 **9** MR. ASSAAD: It's a simple question. It's  
 09:18:48 **10** a simple question.  
 09:18:48 **11** MR. COREY GORDON: Wait, wait.  
 09:18:48 **12** MR. ASSAAD: I got your objection. You  
 09:18:51 **13** said "same objection." No speaking objections.  
 09:18:53 **14 Q.** You may answer the question.  
 09:18:53 **15** MR. COREY GORDON: Gabe -- Gabe, let me  
 09:18:54 **16** stop you right now. If we're going to have another  
 09:18:56 **17** episode like we did last week --  
 09:18:58 **18** MR. ASSAAD: You call the judge. You can  
 09:19:00 **19** call the judge. You produced a foot and a half of  
 09:19:00 **20** documents on the day of deposition. I am happy with  
 09:19:03 **21** that. You want to do that?  
 09:19:03 **22** (Interruption by the reporter.)  
 09:19:04 **23** MR. ASSAAD: I'm just asking if it's -- if  
 09:19:05 **24** he would think it would be fair if I gave him a foot  
 09:19:08 **25** and a half of documents on the day of deposition.  
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09:19:09 **1** MR. COREY GORDON: As a courtesy to the  
 09:19:11 **2** court reporter, if no one else, I am simply asking  
 09:19:14 **3** you, Mr. Assaad, to try to chill out a little bit and  
 09:19:20 **4** wait until either Dr. Wenzel has finished his answer,  
 09:19:24 **5** I have finished my objection before you launch into  
 09:19:27 **6** whatever you want to -- want to speak about.  
 09:19:29 **7** MR. ASSAAD: I will give you a continuing  
 09:19:31 **8** objection that my line of questioning is  
 09:19:36 **9** objectionable.  
 09:19:37 **10** MR. COREY GORDON: No. I'm not going to  
 09:19:38 **11** take a continuing objection. I will interpose  
 09:19:41 **12** objections --  
 09:19:41 **13** MR. ASSAAD: Okay.  
 09:19:41 **14** MR. COREY GORDON: -- as I see fit. I just  
 09:19:43 **15** ask you to give me and the witness and the court  
 09:19:43 **16** reporter --  
 09:19:43 **17** MR. ASSAAD: I --  
 09:19:46 **18** MR. COREY GORDON: -- the courtesy of not  
 09:19:47 **19** talking -- trying to talk over us. We -- We went  
 09:19:51 **20** through an unpleasant --  
 09:19:52 **21** MR. ASSAAD: I got -- I got -- I got it,  
 09:19:52 **22** Corey.  
 09:19:53 **23** MR. COREY GORDON: You're doing it right  
 09:19:54 **24** now, Gabe.  
 09:19:55 **25** MR. ASSAAD: Well Corey, you don't need to  
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09:19:56 **1** waste time. We don't have a lot of time, we have a  
 09:19:58 **2** huge expert report to go through that he spent 300  
 09:20:00 **3** hours on.  
 09:20:01 **4 Q.** I'm just asking if he thinks it would be  
 09:20:03 **5** fair if I gave him a foot and a half of documents on  
 09:20:05 **6** the day of his deposition to answer questions on.  
 09:20:08 **7** MR. COREY GORDON: My objections are the  
 09:20:09 **8** same.  
 09:20:10 **9 A.** Again, what I would say is I met my  
 09:20:13 **10** obligation to get the documents to the legal firm on  
 09:20:17 **11** time.  
 09:20:20 **12 Q.** So you don't want to answer my question, is  
 09:20:22 **13** that --  
 09:20:22 **14 A.** No, I mean, I think it would be -- if you  
 09:20:25 **15** gave me this to read in one day, yeah, that would be  
 09:20:28 **16** challenging.  
 09:20:29 **17 Q.** Okay. It would be challenging; correct?  
 09:20:31 **18 A.** Yes.  
 09:20:32 **19 Q.** Okay. I mean, from --  
 09:20:33 **20** I mean, you wouldn't expect to give one of  
 09:20:35 **21** your students a foot and a half of documents and to  
 09:20:38 **22** answer questions on it in seven -- in seven hours;  
 09:20:41 **23** would you?  
 09:20:43 **24 A.** No, probably not.  
 09:20:43 **25 Q.** Okay. Are all the documents that you  
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09:21:14 **1** produced to counsel listed in your expert report?

09:21:20 **2 A.** I think so.

09:21:21 **3 Q.** Okay. You do understand that today you're

09:21:34 **4** under oath; correct?

09:21:35 **5 A.** I do.

09:21:35 **6 Q.** And that's under penalty of perjury;

09:21:37 **7** correct?

09:21:38 **8 A.** That's correct.

09:21:39 **9 Q.** If you realize that anything in your report

09:21:41 **10** is incorrect or wrong, this is the time to inform us.

09:21:44 **11** Do you understand that?

09:21:45 **12 A.** I do.

09:21:45 **13 Q.** Okay. Now it's my understanding, from

09:21:59 **14** reading your report, that you don't believe that

09:22:06 **15** infections can be caused by airborne contaminants in

09:22:09 **16** the operating room. Is that true?

09:22:11 **17 A.** I don't think that's exactly what I said. I

09:22:15 **18** think the key element of my report is I couldn't find

09:22:18 **19** evidence linking the Bair Hugger to harm, and then I

09:22:22 **20** went through a great deal of papers to show that I

09:22:27 **21** think most infections, the vast majority, come from

09:22:31 **22** the patient's own microbiome. I'm not sure that's

09:22:34 **23** your question, but that...

09:22:35 **24 Q.** So you -- it's your opinion that most of the

09:22:37 **25** infections that occur during a total knee or total hip

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09:23:56 **1 A.** I do, yes.

09:23:59 **2 Q.** Okay. Is it my understanding that the

09:24:15 **3** majority of the time you spent on formulating your

09:24:18 **4** opinions was doing a literature review?

09:24:22 **5 A.** Yes.

09:24:23 **6 Q.** Okay. You didn't do any biological testing;

09:24:25 **7** correct?

09:24:25 **8 A.** That's correct.

09:24:26 **9 Q.** You looked at no internal 3M documents;

09:24:32 **10** correct?

09:24:32 **11 A.** That's correct.

09:24:33 **12 Q.** Okay. You didn't do any particle testing;

09:24:35 **13** correct?

09:24:36 **14 A.** That's correct.

09:24:36 **15 Q.** Okay. In fact you haven't -- you didn't do

09:24:38 **16** any type of original testing.

09:24:39 **17 A.** Not related to this case.

09:24:41 **18 Q.** Okay. Your report is largely a recitation

09:24:45 **19** and cri -- of critiques of various peer-reviewed

09:24:48 **20** studies; correct?

09:24:49 **21 A.** It's my review of the peer-reviewed studies,

09:24:53 **22** and my conclusions based on the data that I saw and my

09:24:58 **23** interpretation of the data.

09:25:05 **24** (Wenzel Exhibit 1 marked for

09:25:05 **25** identification.)

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09:22:41 **1** arthroplasty come from the patient's own biome,

09:22:45 **2** microbiome.

09:22:45 **3 A.** Yes, I do.

09:22:46 **4 Q.** Okay. And that's based on research that you

09:22:49 **5** reviewed?

09:22:50 **6 A.** Research that I reviewed, yeah.

09:22:52 **7 Q.** Okay. And we'll get to that soon.

09:23:02 **8** And when we're talking about infections

09:23:11 **9** during total hip/total knee arthroplasty we're talking

09:23:14 **10** about any type of infection, not infections that may

09:23:17 **11** be caused by a Bair Hugger, correct, that are caused

09:23:19 **12** by the human biome?

09:23:22 **13 A.** I'm not sure. The question again?

09:23:23 **14 Q.** Well before you limited to your -- your

09:23:26 **15** opinion that the Bair Hugger doesn't cause infections.

09:23:29 **16** Do you recall that?

09:23:30 **17 A.** Yeah. What I said is I couldn't find

09:23:32 **18** evidence that would link the Bair Hugger to any link

09:23:35 **19** to infections.

09:23:36 **20 Q.** Okay. My question is: With respect to just

09:23:41 **21** total hip and total knee, irrespective of the source

09:23:44 **22** of the -- or what may or may not cause the infections,

09:23:48 **23** it's your opinion that the majority of those

09:23:50 **24** infections are caused by bacteria on the patient's own

09:23:55 **25** biome.

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09:25:05 **1** BY MR. ASSAAD:

09:25:14 **2 Q.** What's been marked as Exhibit 1 is a copy of

09:25:16 **3** your report. Do you agree with me that that is a

09:25:20 **4** complete copy of your report?

09:25:22 **5 A.** It looks like it.

09:25:23 **6 Q.** Okay. And have you had a chance to review

09:25:28 **7** your report before today's deposition?

09:25:30 **8 A.** Yes, I have.

09:25:31 **9 Q.** Okay. You've reread your entire report

09:25:34 **10** before today's deposition?

09:25:35 **11 A.** I have.

09:25:35 **12 Q.** Okay. And you --

09:25:36 **13** Is there anything that you want to change in

09:25:38 **14** your report before we begin?

09:25:40 **15 A.** I don't think so, but we'll see.

09:25:43 **16 Q.** Sitting today, these are your complete

09:25:45 **17** opinions and all of the sources that you rely upon to

09:25:48 **18** formulate your opinions as of June 2nd, 2017 when you

09:25:51 **19** submitted this report.

09:25:54 **20 A.** Are there other articles out there, are you

09:25:56 **21** asking, --

09:25:57 **22 Q.** No.

09:25:57 **23 A.** -- that I might have thought about since

09:26:00 **24** then, or?

09:26:01 **25 Q.** Well I'm asking about articles and

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09:26:03 **1** literature that you rely upon.  
 09:26:05 **2** **A.** Yeah.  
 09:26:06 **3** **Q.** And that you've cited and have reviewed to  
 09:26:09 **4** support your opinions in your report. They're all  
 09:26:12 **5** contained in this report of Exhibit 1; correct?  
 09:26:14 **6** **A.** Either here or the materials that I sent to  
 09:26:16 **7** you, yeah.  
 09:26:16 **8** **Q.** Okay.  
 09:26:17 **9** MR. COREY GORDON: And I want -- so you can  
 09:26:19 **10** ask him about it, I want you to know we are going to  
 09:26:21 **11** ask him to offer an opinion of the valid -- the  
 09:26:25 **12** validity of the recently published Scott Augustine  
 09:26:29 **13** thing.  
 09:26:29 **14** MR. ASSAAD: I understand that, but I think  
 09:26:31 **15** before I'm going to ask him any questions on that he  
 09:26:33 **16** should file a supplemental report so I can prepare,  
 09:26:36 **17** and to prepare what his opinions are going to be and  
 09:26:38 **18** we can come back and take his deposition.  
 09:26:47 **19** MR. COREY GORDON: So will you agree to  
 09:26:49 **20** that with your experts as well, who've rendered --  
 09:26:52 **21** who've supplemented their opinions based on the newly  
 09:26:55 **22** published Augustine whatever it is?  
 09:26:58 **23** MR. ASSAAD: We'll you've already asked  
 09:27:00 **24** them questions on it, but I will consider it.  
 09:27:12 **25** BY MR. ASSAAD:

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09:27:12 **1** **Q.** Now let's turn to page 73 of your report.  
 09:27:29 **2** You noted on the bottom of page 73, on the third  
 09:27:33 **3** paragraph from the bottom, "Dr. Jarvis' deposition is  
 09:27:36 **4** superficial and wanting."  
 09:27:37 **5** Do you see that?  
 09:27:37 **6** **A.** I do.  
 09:27:38 **7** **Q.** Okay. What deposition did you read by June  
 09:27:42 **8** 2nd, 2017?  
 09:27:47 **9** **A.** I -- I read his deposition. Is that what  
 09:27:49 **10** you're asking me?  
 09:27:50 **11** **Q.** You signed this on June 2nd, 2017; correct?  
 09:27:59 **12** Next page, sir.  
 09:27:59 **13** **A.** Yeah. No, I see that.  
 09:28:01 **14** **Q.** Okay. What deposition did you have of Dr.  
 09:28:03 **15** Jarvis that you want to criticize him as being  
 09:28:06 **16** superficial and wanting?  
 09:28:08 **17** **A.** Yeah, I don't know why the days don't match.  
 09:28:12 **18** **Q.** Well did you not check your report to see if  
 09:28:14 **19** it was accurate?  
 09:28:14 **20** **A.** I did.  
 09:28:15 **21** **Q.** Okay. Do you agree with me that this is not  
 09:28:18 **22** accurate?  
 09:28:18 **23** **A.** Well I agree that I have the 2nd written  
 09:28:20 **24** down there, and I don't know why -- I did read Dr.  
 09:28:24 **25** Jarvis's deposition, and I thought it was at the time

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09:28:27 **1** that I did this report.  
 09:28:30 **2** **Q.** Well, sir, for the -- his deposition was  
 09:28:33 **3** after June 2nd, 2017.  
 09:28:35 **4** **A.** When was his deposition?  
 09:28:38 **5** MS. ZIMMERMAN: Last Tuesday.  
 09:28:39 **6** **Q.** Last Tuesday.  
 09:28:41 **7** **A.** Oh, that's probably his report, then, that  
 09:28:44 **8** I'm talking about, if that's true.  
 09:28:45 **9** **Q.** So you're saying this is not accurate.  
 09:28:47 **10** **A.** I'm saying that I should have had the word  
 09:28:49 **11** "report" there.  
 09:28:50 **12** **Q.** Instead of "deposition"?  
 09:28:51 **13** **A.** Instead of "deposition."  
 09:28:52 **14** **Q.** Okay. So you agree that's a mistaken your  
 09:28:54 **15** report.  
 09:28:54 **16** **A.** I agree and apologize.  
 09:28:56 **17** **Q.** Okay. And so you want to criticize Dr.  
 09:28:58 **18** Jarvis to say that his -- that his opinions are  
 09:29:01 **19** superficial and wanting before you even had a chance  
 09:29:03 **20** to read his deposition?  
 09:29:05 **21** **A.** I saw it based on his report.  
 09:29:06 **22** **Q.** Okay. Page 74, third paragraph. You  
 09:29:15 **23** indicate that "Dr. Samet's deposition is uncritical  
 09:29:17 **24** and wanting." It seems like you like the word  
 09:29:20 **25** "wanting"; correct?

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09:29:21 **1** **A.** I did say the word "wanting" and again --  
 09:29:23 **2** **Q.** What does "wanting" mean to you?  
 09:29:24 **3** MR. COREY GORDON: Gabe, let him finish his  
 09:29:26 **4** answer. You're going to -- You're starting it again.  
 09:29:27 **5** **A.** Well again, I thought it was very  
 09:29:29 **6** uncritical. You want me to tell you why about both of  
 09:29:31 **7** these people?  
 09:29:31 **8** **Q.** No. So you thought it was uncritical and  
 09:29:33 **9** wanting, but you didn't have a chance to read his  
 09:29:35 **10** deposition by that date; correct?  
 09:29:37 **11** **A.** No. This -- I should have said --  
 09:29:38 **12** **Q.** Okay.  
 09:29:39 **13** **A.** -- his report. A mistake.  
 09:29:42 **14** **Q.** Okay. Another mistake; correct?  
 09:29:42 **15** **A.** Yes.  
 09:29:42 **16** **Q.** Okay. So now you agree that there are  
 09:29:45 **17** mistakes in your report.  
 09:29:46 **18** **A.** In terms of those words, yes.  
 09:29:48 **19** **Q.** Okay. And there may be some others that  
 09:29:50 **20** we'll point out later on.  
 09:29:51 **21** **A.** Don't know.  
 09:29:52 **22** MR. COREY GORDON: Object to the form of  
 09:29:53 **23** the question, move to strike.  
 09:30:00 **24** **Q.** Now do you agree that all the articles that  
 09:30:02 **25** you cited are authoritative?

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09:30:05 **1** MR. COREY GORDON: Object to the form of  
 09:30:06 **2** the question.  
 09:30:07 **3** **Q.** In your report of Exhibit 1?  
 09:30:09 **4** **A.** If I cited them they gave some insight, I  
 09:30:09 **5** think, in ter --  
 09:30:13 **6** **Q.** So you'd rely --  
 09:30:14 **7** **A.** Huh?  
 09:30:15 **8** **Q.** So you'd rely on -- on the articles that you  
 09:30:17 **9** cited.  
 09:30:18 **10** MR. COREY GORDON: Object to --  
 09:30:18 **11** **A.** Some much more than others.  
 09:30:18 **12** THE WITNESS: I'm sorry.  
 09:30:21 **13** MR. COREY GORDON: Object to the form of  
 09:30:22 **14** the question.  
 09:30:22 **15** MR. ASSAAD: Basis?  
 09:30:24 **16** MR. COREY GORDON: "Reliance" is a legal  
 09:30:25 **17** term, and if you want to ask him what he, as a  
 09:30:30 **18** scientist, was doing, that's fine. But you're --  
 09:30:35 **19** you're -- you're trying to, you know, as you just  
 09:30:37 **20** did, try to --  
 09:30:37 **21** MR. ASSAAD: I got your objection.  
 09:30:37 **22** MR. COREY GORDON: -- impose a legal term.  
 09:30:38 **23** MR. ASSAAD: I got your objection.  
 09:30:40 **24** **Q.** Do you know what the term "rely" means?  
 09:30:43 **25** **A.** In legal terms, no.  
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09:30:44 **1** **Q.** How about in scientific terms?  
 09:30:45 **2** **A.** Yeah. Scientific terms I would say, yeah,  
 09:30:48 **3** it's credible evidence.  
 09:30:49 **4** **Q.** Okay. And do you know what "authoritative"  
 09:30:50 **5** means?  
 09:30:52 **6** **A.** Usually by someone who's thought to be  
 09:30:55 **7** reputable.  
 09:30:55 **8** **Q.** Okay. And you understand when I refer -- if  
 09:31:01 **9** I ask you if an article is authoritative?  
 09:31:06 **10** **A.** Yeah. You might want to -- I would probably  
 09:31:08 **11** want to add some weight to that or not, some more  
 09:31:12 **12** weighty than others in terms of the force of the data  
 09:31:16 **13** available.  
 09:31:25 **14** **Q.** It's my understanding that you have cited, I  
 09:31:30 **15** mean, last time I counted, between -- in your -- in  
 09:31:33 **16** your report, like, over 90 articles in your -- in your  
 09:31:37 **17** expert report; correct?  
 09:31:38 **18** MR. COREY GORDON: Objection, --  
 09:31:39 **19** **A.** I don't know.  
 09:31:38 **20** MR. COREY GORDON: -- lack of foundation.  
 09:31:40 **21** **A.** I don't know how many there were. There  
 09:31:42 **22** were a lot.  
 09:31:43 **23** **Q.** You've read your report; correct?  
 09:31:45 **24** **A.** I have.  
 09:31:45 **25** **Q.** And there are many -- you cite to many  
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09:31:47 **1** different articles; correct?  
 09:31:48 **2** **A.** I do.  
 09:31:50 **3** **Q.** And it's my understanding that you read  
 09:31:51 **4** those articles completely; correct?  
 09:31:54 **5** **A.** If I cited it, I read those articles.  
 09:31:56 **6** **Q.** You didn't just read the abstract.  
 09:31:58 **7** **A.** I did not read just the abstract.  
 09:32:02 **8** **Q.** Okay.  
 09:32:04 **9** (Wenzel Exhibit 2 marked for  
 09:32:04 **10** identification.)  
 09:32:04 **11** BY MR. ASSAAD:  
 09:32:17 **12** **Q.** What's been marked as Exhibit 2 is a list of  
 09:32:21 **13** articles that -- and documents that you considered or  
 09:32:26 **14** reviewed; is that correct?  
 09:32:27 **15** **A.** That's correct.  
 09:32:28 **16** **Q.** But they may not be cited in your report;  
 09:32:30 **17** correct?  
 09:32:32 **18** **A.** I think that's true.  
 09:32:33 **19** **Q.** Okay. Do you consider all of the articles  
 09:32:34 **20** in Exhibit 2 to be authoritative?  
 09:32:37 **21** MR. COREY GORDON: Object to the form of  
 09:32:38 **22** the question.  
 09:32:41 **23** **A.** I don't know if they're authoritative.  
 09:32:43 **24** They're -- They're articles I read related to the  
 09:32:45 **25** case.  
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09:32:46 **1** **Q.** Did you rely on them in formulating your  
 09:32:47 **2** opinions?  
 09:32:48 **3** **A.** Some of them I didn't actually use in my  
 09:32:52 **4** report.  
 09:32:54 **5** **Q.** That wasn't my question, sir.  
 09:32:55 **6** Did you rely -- Did you rely on them in  
 09:32:58 **7** formulating your opinions, whether or not you cited  
 09:33:00 **8** them in your report?  
 09:33:01 **9** MR. COREY GORDON: Same objections.  
 09:33:03 **10** **A.** Yeah, for the most part I think that's true.  
 09:33:07 **11** **Q.** The answer to my question is "yes."  
 09:33:08 **12** **A.** Yes.  
 09:33:08 **13** **Q.** Okay. Going to Exhibit B, it seems like you  
 09:33:13 **14** received the report of -- the expert report of Michael  
 09:33:17 **15** Buck. Do you see that?  
 09:33:18 **16** **A.** Where is that?  
 09:33:20 **17** **Q.** First line.  
 09:33:22 **18** **A.** Yeah.  
 09:33:23 **19** **Q.** But you offer no criticisms in your report  
 09:33:25 **20** of Michael Buck; correct?  
 09:33:27 **21** **A.** No. I didn't spend much time on that, no.  
 09:33:29 **22** **Q.** So the answer to my question is you didn't  
 09:33:31 **23** offer any criticisms of Michael Buck in your report;  
 09:33:33 **24** correct?  
 09:33:33 **25** **A.** I did not. That's correct.  
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09:33:35 **1 Q.** Okay. You also looked at the report of Dr.  
 09:33:36 **2** Said Elghobashi; correct?  
 09:33:37 **3 A.** Yes.  
 09:33:38 **4 Q.** In your report you didn't offer any  
 09:33:40 **5** criticisms of Dr. Elghobashi in your report; correct?  
 09:33:42 **6 A.** That's true.  
 09:33:43 **7 Q.** Did you even understand his report?  
 09:33:45 **8 A.** It was way over my head.  
 09:33:47 **9 Q.** Okay. I understand that you criticize Dr.  
 09:33:51 **10** Jarvis as being -- I'd like to use the words you  
 09:33:56 **11** used -- "superficial and wanting"; correct?  
 09:34:05 **12 A.** That's correct.  
 09:34:06 **13 Q.** Okay. And you also criticized Dr. Jonathan  
 09:34:12 **14** Samet in your report as being "wanting" as well;  
 09:34:14 **15** correct?  
 09:34:15 **16 A.** That's correct.  
 09:34:16 **17 Q.** Did you have any criticism of Dr. Holford's  
 09:34:18 **18** report?  
 09:34:20 **19 A.** No.  
 09:34:20 **20 Q.** Why not?  
 09:34:22 **21** MR. COREY GORDON: Object to the form of  
 09:34:23 **22** the question.  
 09:34:23 **23 A.** I thought he was helpful, actually.  
 09:34:27 **24 Q.** Have you read his --  
 09:34:27 **25** (Interruption by the reporter.)  
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09:34:28 **1 Q.** Did you rely on his opinions in formulating  
 09:34:32 **2** your opinions?  
 09:34:34 **3 A.** In -- In part, where he talked about the  
 09:34:36 **4** changing rates, for example, over time during the Bair  
 09:34:41 **5** Hugger period, when he showed the high rates at that  
 09:34:45 **6** hospital compared to the rest of the U.K. hospitals in  
 09:34:48 **7** the same trust. There were a couple of things like  
 09:34:52 **8** that that made me even more skeptical of the articles  
 09:34:59 **9** that were focusing on --  
 09:35:00 **10 Q.** You're talking about the McGovern article.  
 09:35:02 **11 A.** McGovern article.  
 09:35:03 **12 Q.** So would you agree -- would you defer to Dr.  
 09:35:06 **13** Holford with respect to his analysis of the McGovern  
 09:35:08 **14** article?  
 09:35:09 **15** MR. COREY GORDON: Object to the form of  
 09:35:10 **16** the question.  
 09:35:10 **17 A.** No, I don't think I would defer to him at  
 09:35:12 **18** all. I think I have my own opinion.  
 09:35:15 **19 Q.** Okay. But you relied on some of the  
 09:35:16 **20** information you obtained from his report in  
 09:35:19 **21** formulating your opinions.  
 09:35:19 **22 A.** A little bit of that, yes.  
 09:35:22 **23 Q.** Okay. With respect to Dr. Borak, do you  
 09:35:25 **24** have any criticism of his report?  
 09:35:26 **25 A.** No. I thought he did a good job.  
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09:35:28 **1 Q.** Okay. Did you rely on any information in  
 09:35:33 **2** Dr. Borak to formulate your opinions?  
 09:35:38 **3 A.** Yes. I -- In his report -- I want to make  
 09:35:43 **4** sure I don't mix up his report with his deposition. I  
 09:35:53 **5** think -- Yeah. His -- His focus on the rivaroxaban  
 09:35:58 **6** issue, I -- I thought was very helpful, added to what  
 09:36:02 **7** I thought was going on.  
 09:36:04 **8 Q.** Okay. So did you rely on information in his  
 09:36:11 **9** report to formulate your opinions, some of your  
 09:36:14 **10** opinions?  
 09:36:14 **11 A.** Perhaps.  
 09:36:16 **12 Q.** Is that a "yes" or a "no"?  
 09:36:17 **13 A.** Yeah, I think it's a yes, but I -- you know,  
 09:36:19 **14** I can't exactly remember what parts.  
 09:36:36 **15 Q.** You don't consider yourself an expert in  
 09:36:40 **16** hypothermia; do you?  
 09:36:43 **17** MR. COREY GORDON: Object to the form of  
 09:36:44 **18** the question.  
 09:36:44 **19 A.** No, in the sense that where hypothermia  
 09:36:48 **20** inter -- interfaces with infectious disease I think I  
 09:36:51 **21** know a lot, yes.  
 09:36:51 **22 Q.** What research have you done with  
 09:36:53 **23** hypothermia?  
 09:36:53 **24 A.** I've done no direct research with it.  
 09:36:55 **25 Q.** So you're just basically relying on  
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09:36:58 **1** literature review to -- for your understanding of  
 09:36:59 **2** hypothermia as related to surgical-site infections.  
 09:37:02 **3 A.** Well with the background in infectious  
 09:37:04 **4** diseases and interest in hospital-acquired infections.  
 09:37:07 **5** If that's part of the mix, yes.  
 09:37:08 **6 Q.** Well you graduated from medical school in  
 09:37:15 **7** 1965; correct?  
 09:37:17 **8 A.** That's correct.  
 09:37:17 **9 Q.** And a lot of the research regarding the  
 09:37:19 **10** effects of hypothermia on -- and its effect on  
 09:37:25 **11** surgical-site infections was much after 1965. Do you  
 09:37:27 **12** agree?  
 09:37:28 **13 A.** No question. Yes.  
 09:37:30 **14 Q.** Okay. So a lot of the --  
 09:37:31 **15** I mean, you have done no research on that  
 09:37:33 **16** issue independently; correct?  
 09:37:34 **17 A.** That's correct.  
 09:37:35 **18 Q.** Okay. And you've done no studies on that;  
 09:37:36 **19** correct?  
 09:37:37 **20 A.** No studies.  
 09:37:38 **21 Q.** Okay. So you agree that most of the  
 09:37:40 **22** information that you've obtained was through  
 09:37:43 **23** peer-reviewed articles that other people have done in  
 09:37:46 **24** the area; correct?  
 09:37:47 **25 A.** That's correct.  
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09:37:47 **1 Q.** Okay. And you'd agree with me that the two  
 09:37:50 **2** leading people dealing with the effects of hypothermia  
 09:37:53 **3** in the world are Dr. Andrea Kurz and Dr. Daniel  
 09:37:58 **4** Sessler; correct?  
 09:37:59 **5 A.** Yes.  
 09:38:01 **6 Q.** Okay. So you would defer to them with  
 09:38:01 **7** respect to the effects of hypothermia on surgical-site  
 09:38:04 **8** infections; correct?  
 09:38:04 **9 A.** I don't know --  
 09:38:04 **10** MR. COREY GORDON: Object to the form of  
 09:38:06 **11** the question.  
 09:38:06 **12 A.** -- if I'd defer to them, no.  
 09:38:08 **13 Q.** So you wouldn't defer to a doctor that has  
 09:38:11 **14** spent their entire life doing research on an issue,  
 09:38:15 **15** that -- that has published tens of articles on that  
 09:38:20 **16** issue, has given talks around the world on that issue,  
 09:38:26 **17** and continues to do research on that issue, you  
 09:38:29 **18** wouldn't defer to them on issues of hypothermia?  
 09:38:32 **19** MR. COREY GORDON: Object to the form of  
 09:38:33 **20** the question.  
 09:38:34 **21 A.** What I would do is look at what they have  
 09:38:36 **22** written and see if that comports with all the other  
 09:38:39 **23** data that are out there, and look at their articles  
 09:38:41 **24** themselves so I would formulate an opinion. I'm not  
 09:38:46 **25** intimidated by the whole raft of research that someone  
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09:38:50 **1** else has done to say I'm not going to have a thought  
 09:38:52 **2** on it.  
 09:38:54 **3 Q.** So you wouldn't defer to Dr. Sessler or Dr.  
 09:38:56 **4** Kurz with respect to hypothermia and surgical-site  
 09:38:58 **5** infections.  
 09:38:58 **6 A.** Not necessarily. I'd like to know exactly  
 09:39:00 **7** what you're getting at so I can comment on it.  
 09:39:03 **8 Q.** Well who else out there has done research  
 09:39:08 **9** with respect to hypothermia and the incident of  
 09:39:11 **10** surgical-site infections?  
 09:39:13 **11 A.** Well I looked at two clinical trials, I  
 09:39:19 **12** cited those both in my report. And Melling was the  
 09:39:24 **13** second one after Kurz. I cited Madrid's recent  
 09:39:29 **14** meta-analysis. There's also an earlier meta-analysis,  
 09:39:34 **15** I cited the author, and -- and that came in a  
 09:39:38 **16** publication in AORN, Eileen Scott's. I cited six  
 09:39:46 **17** cohort studies of people who've done work in  
 09:39:50 **18** hypothermia. I cited a case-control study about  
 09:39:56 **19** hypothermia and infections. I cited eight studies  
 09:40:03 **20** looking for anything that the Bair Hugger may have  
 09:40:08 **21** done in terms of colony-forming units, which would be  
 09:40:14 **22** maybe a step in the pathway of infections.  
 09:40:18 **23 Q.** Sir, I'm not -- I'm not talking about Bair  
 09:40:20 **24** Hugger. I'm talking about hypothermia and the  
 09:40:22 **25** incidence of SSI.  
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09:40:24 **1 A.** Yeah. And I've cited the -- well SSI --  
 09:40:29 **2** Yeah.  
 09:40:29 **3** So I think I've given you a -- a number of  
 09:40:33 **4** papers to look at that.  
 09:40:34 **5 Q.** Okay. You've never spoken on the issue of  
 09:40:46 **6** hypothermia and effects of surgical-site infections;  
 09:40:50 **7** correct?  
 09:40:51 **8 A.** I've spoken on surgical-site infections  
 09:40:53 **9** where I've cited work on hypothermia, but I haven't  
 09:40:58 **10** just given a talk just hypothermia.  
 09:41:00 **11 Q.** Okay. Have you read the deposition of Dr.  
 09:41:04 **12** Sessler?  
 09:41:05 **13 A.** Yeah. I don't remember that very well, but  
 09:41:07 **14** yeah.  
 09:41:07 **15 Q.** Do you remember the deposition of Andrea  
 09:41:08 **16** Kurz?  
 09:41:09 **17 A.** I do.  
 09:41:10 **18 Q.** Okay. And you read that one?  
 09:41:11 **19 A.** Yes.  
 09:41:11 **20 Q.** Okay.  
 09:41:11 **21** MR. ASSAAD: Mark this as Exhibit 3.  
 09:41:11 **22** (Wenzel Exhibit 3 marked for  
 09:41:51 **23** identification.)  
 09:41:51 **24** MR. ASSAAD: I don't have a copy for you.  
 09:41:53 **25** MR. COREY GORDON: That's fine. Just note  
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09:41:53 **1** that that came out of the box of materials.  
 09:41:56 **2** MR. ASSAAD: I was about to say that.  
 09:41:57 **3** MR. COREY GORDON: That's fine.  
 09:41:58 **4** BY MR. ASSAAD:  
 09:41:59 **5 Q.** Exhibit 3 came out of the documents that  
 09:42:01 **6** were produced today; correct, doctor?  
 09:42:02 **7 A.** I think that's right, yes.  
 09:42:03 **8 Q.** Okay. Where'd you obtain that document  
 09:42:05 **9** from?  
 09:42:07 **10 A.** This one I think I got from counsel, but I'm  
 09:42:10 **11** not sure.  
 09:42:10 **12 Q.** So is that the only document of Exhibit 3  
 09:42:12 **13** that you obtained from counsel?  
 09:42:15 **14 A.** No.  
 09:42:18 **15 Q.** What other document --  
 09:42:19 **16 A.** Are there other documents, you mean, that  
 09:42:21 **17** they may have sent to me to read?  
 09:42:23 **18 Q.** Yes.  
 09:42:23 **19 A.** Is that what you're asking?  
 09:42:24 **20 Q.** Well Is that -- Let me rephrase.  
 09:42:26 **21** Is that the only internal document, like  
 09:42:28 **22** non-peer-reviewed literature that you received from  
 09:42:30 **23** counsel?  
 09:42:30 **24** MR. COREY GORDON: Object to the form of  
 09:42:31 **25** the question.  
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09:42:32 **1** **A.** Not sure, but probably.  
 09:42:33 **2** **Q.** Okay. So you didn't receive any internal  
 09:42:36 **3** testing of the Bair Hugger from 3M?  
 09:42:38 **4** **A.** No.  
 09:42:39 **5** **Q.** You didn't receive any --  
 09:42:41 **6** Did you receive any of the computational  
 09:42:48 **7** fluid dynamics studies that were done internally by  
 09:42:52 **8** 3M?  
 09:42:52 **9** **A.** No.  
 09:42:53 **10** **Q.** Did you receive any of the schlieren studies  
 09:42:56 **11** that were done internally by 3M?  
 09:42:58 **12** **A.** No.  
 09:42:58 **13** **Q.** Did you see --  
 09:42:59 **14** Did you get any of the calculations done  
 09:43:03 **15** with respect to whether or not the Bair Hugger  
 09:43:05 **16** disrupts unidirectional flow that was done internally  
 09:43:11 **17** by 3M?  
 09:43:12 **18** **A.** No.  
 09:43:12 **19** MR. COREY GORDON: Object to the form of  
 09:43:13 **20** the question.  
 09:43:14 **21** MR. ASSAAD: Basis?  
 09:43:15 **22** MR. COREY GORDON: Assumes facts not in  
 09:43:18 **23** evidence, and -- and the predicate of the question is  
 09:43:22 **24** actually contrary to evidence.  
 09:43:23 **25** MR. ASSAAD: Okay.  
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09:43:25 **1** **Q.** Did you receive any of the -- Strike that.  
 09:43:40 **2** Did you see the computational fluid dynamic  
 09:44:05 **3** videos perfor -- prepared by Dr. Elghobashi?  
 09:44:09 **4** **A.** Was that a Science Day? I can't remember --  
 09:44:11 **5** **Q.** No.  
 09:44:11 **6** **A.** -- whether he had one. Then I probably  
 09:44:13 **7** didn't see it.  
 09:44:14 **8** **Q.** Did you see the videos prepared by Dr.  
 09:44:17 **9** Abraham?  
 09:44:17 **10** **A.** I think he had that at Science Day. That's  
 09:44:20 **11** all I saw, yes.  
 09:44:22 **12** **Q.** Okay. But my understanding is because your  
 09:44:27 **13** opinion is that most of the infections that cau --  
 09:44:30 **14** most of the bacteria that causes surgical-site  
 09:44:32 **15** infections is on the patient's flora, that airflow in  
 09:44:37 **16** the operating room is -- is not that -- is not as  
 09:44:43 **17** important as other areas with respect to infection.  
 09:44:46 **18** MR. COREY GORDON: Object to the form of  
 09:44:48 **19** the question.  
 09:44:48 **20** **A.** What I would say is that if you're looking  
 09:44:50 **21** for the reservoir of the organisms causing  
 09:44:54 **22** surgical-site infections, my opinion is that they come  
 09:44:58 **23** from the patient the vast majority of time.  
 09:45:01 **24** **Q.** When you say "vast majority," can you give  
 09:45:02 **25** me a percentage?  
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09:45:03 **1** **A.** Well in my report I've said somewhere  
 09:45:05 **2** between 70 and 90 just based on the data that we have  
 09:45:09 **3** already.  
 09:45:10 **4** **Q.** Okay. And that is because, based on your  
 09:45:15 **5** opinion that if a surgical-site infection occurs that  
 09:45:25 **6** it's -- it's most likely patient flora and not from  
 09:45:29 **7** airborne contamination.  
 09:45:30 **8** MR. COREY GORDON: Object to the form of  
 09:45:31 **9** the question.  
 09:45:31 **10** **A.** It's based on my opinion, which is based on  
 09:45:35 **11** review of the literature that looks at the microbiome  
 09:45:39 **12** and the influence of the microbiome on the organisms  
 09:45:44 **13** causing surgical-site infections.  
 09:45:49 **14** Is that clear, or let me know if you --  
 09:45:50 **15** **Q.** Well no. I'm just trying to understand your  
 09:45:53 **16** opinion --  
 09:45:53 **17** **A.** Yeah.  
 09:45:53 **18** **Q.** -- and just to sum it up.  
 09:45:53 **19** **A.** Sure.  
 09:45:54 **20** **Q.** Your opinion is that the most likely cause  
 09:45:56 **21** of a surgical-site infection is the pla -- the  
 09:45:59 **22** patient's flora.  
 09:46:00 **23** **A.** Yes.  
 09:46:01 **24** **Q.** Okay. And you don't believe that the --  
 09:46:09 **25** that the air quality of an operating room causes a  
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09:46:18 **1** significant risk of surgical-site infection.  
 09:46:22 **2** MR. COREY GORDON: Object to the form of  
 09:46:23 **3** the question.  
 09:46:24 **4** **A.** Well I'm not sure what you mean by  
 09:46:25 **5** "significant risk," but I think -- I mean, I belie --  
 09:46:30 **6** I'm interested in infection control, no question, and  
 09:46:33 **7** I would love the air to be as clean as possible. And  
 09:46:36 **8** the question really gets to the heart of this is does  
 09:46:40 **9** air influence the infections or the infection rate,  
 09:46:48 **10** and it's hard to find a lot of data to support that.  
 09:46:51 **11** **Q.** Well --  
 09:46:52 **12** **A.** I -- I don't want to say it's a total  
 09:46:53 **13** impossibility. I'm one of those guys, you'll ask me a  
 09:46:56 **14** lot of questions, I won't say "never" or "always."  
 09:46:59 **15** **Q.** Well let's do it this way to make things  
 09:47:01 **16** easier. I'm asking for your opinion within a  
 09:47:05 **17** reasonable degree of medical probability. Okay?  
 09:47:06 **18** **A.** Umm-hmm.  
 09:47:07 **19** **Q.** I'm not asking for a hundred percent  
 09:47:08 **20** certainty.  
 09:47:09 **21** **A.** Yeah.  
 09:47:09 **22** **Q.** You understand that?  
 09:47:10 **23** **A.** Yeah.  
 09:47:10 **24** **Q.** So it's my understanding that your opinion  
 09:47:12 **25** is that the mo -- that -- that more likely than not  
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09:47:16 **1** the air quality in an operating room does not cause a  
 09:47:19 **2** significant risk in surgical-site infections.  
 09:47:21 **3** MR. COREY GORDON: Object to the form of  
 09:47:22 **4** the question.  
 09:47:22 **5** **A.** I don't know that I would phrase it that  
 09:47:23 **6** way.  
 09:47:24 **7** What I would say is most -- the origin, in  
 09:47:27 **8** other words, the reservoir of the organisms causing  
 09:47:30 **9** surgical-site infections is the vast majority are  
 09:47:33 **10** going to be in the patient, they're endogenous, in my  
 09:47:38 **11** opinion. I -- You know, I want the air to be as pure  
 09:47:40 **12** as possible. I think there's always a possibility  
 09:47:44 **13** that air is involved in surgical-site infections. I  
 09:47:48 **14** think the information that we'd love to have to answer  
 09:47:52 **15** your question is -- is still not out there clear. And  
 09:47:55 **16** the reason, in part, if you want to look at laminar  
 09:47:59 **17** airflow. So right after the Lidwell's really  
 09:48:03 **18** interesting study, you know, heart and lung, number of  
 09:48:06 **19** patients, 8,000 patients, randomized, you know, a lot  
 09:48:11 **20** of hospitals began to then rely on laminar airflow.  
 09:48:15 **21** So what happened then? So you had Brandt's study, you  
 09:48:19 **22** know, the total review, and then you had Gastmeier's  
 09:48:23 **23** review, and then you had a review by Hooper for the  
 09:48:28 **24** New Zealand and the follow-up New Zealand; four cohort  
 09:48:33 **25** studies, 300,000 patients, and what they found

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09:48:37 **1** actually was the infection rates were a little higher  
 09:48:41 **2** if you had laminar airflow.  
 09:48:43 **3** Follow that up. More recently Bischoff has  
 09:48:47 **4** done a big meta-analysis published in *Lancet*, and what  
 09:48:51 **5** he showed was in fact with 14 studies, hips and knees,  
 09:48:57 **6** there is no real improvement when you add all those  
 09:49:02 **7** data as well from the meta --  
 09:49:03 **8** **Q.** Can I ask you a question real quick?  
 09:49:06 **9** **A.** Hmm?  
 09:49:06 **10** **Q.** Can I ask you a question real quick?  
 09:49:07 **11** **A.** Yeah.  
 09:49:08 **12** **Q.** What percentage of hospitals in the United  
 09:49:10 **13** States use laminar airflow?  
 09:49:11 **14** **A.** I don't know what the answer is. I don't  
 09:49:12 **15** think it's the majority.  
 09:49:14 **16** **Q.** I mean, have you ever been in an operating  
 09:49:15 **17** room in the United States that has laminar airflow?  
 09:49:18 **18** **A.** Don't think so.  
 09:49:20 **19** **Q.** Do you know what laminar airflow is?  
 09:49:22 **20** **A.** Unidirectional filtered air.  
 09:49:24 **21** **Q.** That's your understanding of laminar  
 09:49:25 **22** airflow?  
 09:49:25 **23** **A.** Yeah. I'm not an expert in laminar.  
 09:49:27 **24** **Q.** Okay. So when you read studies that discuss  
 09:49:30 **25** laminar airflow and turbulent airflow, --

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09:49:33 **1** **A.** Yeah.  
 09:49:33 **2** **Q.** -- do you -- don't you think it's important  
 09:49:35 **3** to understand the difference?  
 09:49:37 **4** **A.** Yeah.  
 09:49:37 **5** **Q.** Okay.  
 09:49:37 **6** **A.** I think I do.  
 09:49:38 **7** **Q.** So what --  
 09:49:38 **8** So your difference is one is unidirectional,  
 09:49:40 **9** and the --  
 09:49:41 **10** And what's "turbulent" then?  
 09:49:42 **11** **A.** Turbulent is where there's no effort to sort  
 09:49:46 **12** of compartmentalize the air either from the side or  
 09:49:49 **13** from the top that laminar flow is trying to push down  
 09:49:54 **14** the particles or -- in one way or another.  
 09:49:59 **15** **Q.** So what's turbulent, then? Where is the air  
 09:50:01 **16** coming from?  
 09:50:02 **17** **A.** Turbulent they don't have that. The air is  
 09:50:05 **18** ambient air coming through a filter that's in the  
 09:50:07 **19** operating room.  
 09:50:09 **20** **Q.** But where are the -- where is -- where is  
 09:50:10 **21** the vents?  
 09:50:12 **22** MR. COREY GORDON: Objection, lack of  
 09:50:13 **23** foundation.  
 09:50:13 **24** **A.** I don't know.  
 09:50:14 **25** **Q.** I mean, doctor, you agree with me that if

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09:50:17 **1** you're going to criticize articles and use it to  
 09:50:20 **2** formulate your opinions that you should have --  
 09:50:21 **3** especially discussing laminar flow and turbulent flow,  
 09:50:25 **4** you should have a good understanding of what the  
 09:50:27 **5** difference is. Don't you agree?  
 09:50:28 **6** MR. COREY GORDON: Object to the form of  
 09:50:29 **7** the question.  
 09:50:29 **8** **Q.** Don't you agree, doctor?  
 09:50:30 **9** **A.** I'd love to know more about laminar flow,  
 09:50:33 **10** but I've -- I've cited 300,000-plus patients who  
 09:50:37 **11** undergo laminar flow, and then I've cited a  
 09:50:41 **12** meta-analysis recently.  
 09:50:43 **13** **Q.** But would it make any difference if 99  
 09:50:45 **14** percent of the hospitals in the United States don't  
 09:50:47 **15** use laminar flow?  
 09:50:49 **16** MR. COREY GORDON: Object to the form of  
 09:50:49 **17** the question.  
 09:50:50 **18** **A.** I don't even understand that question.  
 09:50:51 **19** **Q.** Well you --  
 09:50:53 **20** Do you know what percentage of hospitals in  
 09:50:54 **21** the United States use laminar flow?  
 09:50:56 **22** **A.** No, I don't. I thought it was a minority.  
 09:50:58 **23** **Q.** Do you think if air comes from the ceiling  
 09:51:00 **24** that it's laminar flow?

MR. COREY GORDON: Object to the form --

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09:51:02 **1** **A.** No, not necessarily.  
 09:51:02 **2** MR. COREY GORDON: -- of the question, lack  
 09:51:02 **3** of foundation.  
 09:51:04 **4** **Q.** Okay. So why would you compare laminar flow  
 09:51:08 **5** to turbulent flow in a case in the United States of  
 09:51:10 **6** America where most of the patients are in turbulent  
 09:51:15 **7** airflow operating rooms in your report, if it's  
 09:51:18 **8** completely irrelevant?  
 09:51:20 **9** MR. COREY GORDON: Object to the form of  
 09:51:20 **10** the question.  
 09:51:21 **11** **A.** No. You asked -- You asked me a question  
 09:51:23 **12** about the importance of air, and then I went back to  
 09:51:28 **13** say -- and you said, is it not important or important,  
 09:51:30 **14** something along that line. Then I went back to talk  
 09:51:33 **15** about Lidwell's study that stimulated the really  
 09:51:37 **16** international push for laminar flow, and --  
 09:51:41 **17** **Q.** I understand the studies.  
 09:51:42 **18** MR. ASSAAD: I'm not asking for him to  
 09:51:44 **19** describe the studies, Corey. We're going to have a  
 09:51:45 **20** long day, we're going to --  
 09:51:46 **21** MR. COREY GORDON: No. Let's make  
 09:51:47 **22** short-circuit. Are you prepared to stipulate that  
 09:51:50 **23** studies on laminar airflow are irrelevant to this  
 09:51:51 **24** case?  
 09:51:51 **25** MR. ASSAAD: No. No. But when it comes to  
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09:51:55 **1** infection -- I'm just ask -- I'm trying to see if  
 09:51:58 **2** understands what laminar flow is.  
 09:51:59 **3** MR. COREY GORDON: Okay. Well you've asked  
 09:52:00 **4** him that.  
 09:52:00 **5** MR. ASSAAD: Well he's --  
 09:52:00 **6** BY MR. ASSAAD:  
 09:52:01 **7** **Q.** You're criticizing laminar flow as compared  
 09:52:06 **8** to turbulent flow.  
 09:52:06 **9** **A.** Yeah.  
 09:52:06 **10** **Q.** You do understand we're in the United States  
 09:52:07 **11** of America and this case is here; correct?  
 09:52:09 **12** **A.** Pardon me?  
 09:52:09 **13** **Q.** The case is here in the United States of  
 09:52:11 **14** America.  
 09:52:11 **15** **A.** Yes, they are.  
 09:52:11 **16** **Q.** Okay.  
 09:52:11 **17** **A.** Yeah.  
 09:52:13 **18** **Q.** And if you're looking at infection rates  
 09:52:15 **19** with respect to what happens in the United States, if  
 09:52:20 **20** the majority of the United States operating rooms do  
 09:52:22 **21** not -- do not contain laminar flow, then the issue  
 09:52:24 **22** between laminar and turbulent is irrelevant; correct?  
 09:52:27 **23** **A.** Well --  
 09:52:28 **24** MR. COREY GORDON: Object to the form of  
 09:52:29 **25** the question, also lack of foundation.  
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09:52:30 **1** **A.** You know, I'm trying to respond to the  
 09:52:32 **2** question of how important air is, and --  
 09:52:33 **3** **Q.** I'm talking about laminar and turbulent,  
 09:52:35 **4** sir, --  
 09:52:36 **5** **A.** No, I understa --  
 09:52:37 **6** **Q.** -- I'm not talking about --  
 09:52:38 **7** **A.** No. I understand.  
 09:52:38 **8** So what I'm saying is if you want to look at  
 09:52:41 **9** the difference, laminar flow clearly has been shown to  
 09:52:43 **10** decrease particles. And the question is does  
 09:52:46 **11** decreased particles really relate to the endpoint  
 09:52:50 **12** surgical-site infections. So I've cited data from  
 09:52:53 **13** four large cohorts, over 300,000 patients, and then an  
 09:52:58 **14** additional 14 patients in a meta-analysis by Bischoff,  
 09:53:03 **15** and an accompanying editorial by Weinstein that talks  
 09:53:08 **16** about you don't need laminar flow. So that's --  
 09:53:16 **17** that's a lot of data.  
 09:53:17 **18** **Q.** Do you know what the velocity of air is in a  
 09:53:20 **19** laminar flow system in Australia?  
 09:53:22 **20** **A.** I don't know what the velocity is in  
 09:53:24 **21** Australia.  
 09:53:25 **22** **Q.** In the United Kingdom?  
 09:53:27 **23** **A.** No.  
 09:53:27 **24** **Q.** Do you know what it is in New Zealand?  
 09:53:29 **25** **A.** No.  
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09:53:30 **1** **Q.** Okay. Don't you think the velocity of air  
 09:53:32 **2** has a lot to do with how air flows in an operating  
 09:53:35 **3** room?  
 09:53:35 **4** **A.** May well, --  
 09:53:35 **5** MR. COREY GORDON: Object to the form of  
 09:53:36 **6** the question.  
 09:53:36 **7** **A.** -- but I don't know.  
 09:53:37 **8** **Q.** You would defer to an engineer; correct?  
 09:53:39 **9** **A.** About velocity, yes.  
 09:53:41 **10** **Q.** About airflow in an operating room; --  
 09:53:41 **11** **A.** Yes.  
 09:53:43 **12** **Q.** -- correct?  
 09:53:44 **13** **A.** Yes.  
 09:53:44 **14** **Q.** You'd defer to a -- someone that's a --  
 09:53:48 **15** that's an expert in fluid dynamics; correct?  
 09:53:53 **16** MR. COREY GORDON: Object to the form of  
 09:53:53 **17** the question.  
 09:53:54 **18** **A.** Fluid dynamics to talk about air, you mean?  
 09:53:57 **19** **Q.** Yes.  
 09:53:58 **20** **A.** Yeah, I'll talk about the clinical studies,  
 09:54:00 **21** and they can talk about the basic science of airflow,  
 09:54:05 **22** absolutely.  
 09:54:14 **23** **Q.** Are you familiar with Memarzadeh?  
 09:54:16 **24** **A.** With what?  
 09:54:17 **25** **Q.** Memarzadeh?  
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09:54:19 **1** MR. COREY GORDON: Object to the form of  
 09:54:20 **2** the question.  
 09:54:20 **3** **Q.** Do you know who he is?  
 09:54:21 **4** **A.** I don't think so.  
 09:54:21 **5** **Q.** Okay.  
 09:54:24 **6** MR. ASSAAD: What was the basis?  
 09:54:26 **7** MR. COREY GORDON: Memarzadeh? I mean, if  
 09:54:27 **8** you want to ask him about a specific study or -- I  
 09:54:31 **9** mean, there are proba --  
 09:54:31 **10** MR. ASSAAD: Who he is. Who he is.  
 09:54:31 **11** MR. COREY GORDON: You know, Gabe, I'll bet  
 09:54:31 **12** --  
 09:54:33 **13** **Q.** Do you know who Darouiche is? Do you know  
 09:54:36 **14** who Darouiche is?  
 09:54:36 **15** MR. COREY GORDON: I'll bet there's several  
 09:54:38 **16** hundred people in the United States whose last name  
 09:54:39 **17** is Memarzadeh.  
 09:54:40 **18** MR. ASSAAD: Okay Corey, great.  
 09:54:41 **19** **Q.** Do you know who Darouiche is?  
 09:54:43 **20** **A.** I do.  
 09:54:43 **21** **Q.** How many Darouiches are there in the United  
 09:54:46 **22** States, do you think?  
 09:54:46 **23** **A.** I have no idea.  
 09:54:47 **24** **Q.** Okay. But you know the Darouiche I'd be  
 09:54:48 **25** talking about in this case; correct?

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09:54:50 **1** **A.** Yes.  
 09:54:50 **2** **Q.** Okay. You mentioned particles in an earlier  
 09:55:13 **3** answer. Do you agree that particles can carry  
 09:55:17 **4** bacteria?  
 09:55:17 **5** **A.** Yes, some of them can.  
 09:55:19 **6** **Q.** What do you mean by "some of them"?  
 09:55:21 **7** **A.** I think the -- I've seen sort of percentages  
 09:55:24 **8** vary, plus or minus 40 percent or something like that.  
 09:55:27 **9** **Q.** What percentages carry parti --  
 09:55:29 **10** In an operating room, what percentage of the  
 09:55:31 **11** particles carry bacteria?  
 09:55:32 **12** MR. COREY GORDON: Object to the form of  
 09:55:33 **13** the question.  
 09:55:33 **14** **A.** Well I don't know, but I'm giving you what  
 09:55:35 **15** I've seen printed in the literature, 40 percent.  
 09:55:39 **16** **Q.** Forty percent of the particles in an  
 09:55:40 **17** operating room carry bacteria?  
 09:55:41 **18** MR. COREY GORDON: Object to the form of  
 09:55:41 **19** the question.  
 09:55:42 **20** **A.** Forty percent of particles can carry  
 09:55:46 **21** bacteria. I don't know how well that's been studied  
 09:55:48 **22** in an operating room by itself, but I'm happy to talk  
 09:55:50 **23** about particles.  
 09:55:51 **24** **Q.** Well, so -- Do you have a --  
 09:55:55 **25** Do you have a citation for that?

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09:55:57 **1** **A.** No, I don't.  
 09:55:58 **2** **Q.** Okay.  
 09:56:07 **3** (Wenzel Exhibit 4 marked for  
 09:56:07 **4** identification.)  
 09:56:07 **5** BY MR. ASSAAD:  
 09:56:31 **6** **Q.** Exhibit 4 is a copy of your curriculum  
 09:56:35 **7** vitae. Is this the most up to date copy of your  
 09:56:37 **8** curriculum vitae?  
 09:56:38 **9** **A.** I think so.  
 09:56:42 **10** **Q.** Are you board certified in infectious  
 09:56:45 **11** disease?  
 09:56:45 **12** **A.** I'm board certified in infectious disease  
 09:56:47 **13** and internal medicine.  
 09:56:48 **14** **Q.** Okay. I don't want to spend too much time,  
 09:56:52 **15** but please help me out here. I want to go to your  
 09:56:55 **16** publications --  
 09:56:56 **17** **A.** Sure.  
 09:57:03 **18** **Q.** -- which I believe starts on page -- under  
 09:57:10 **19** your Bibliography. There's no page numbers. I'm  
 09:57:14 **20** sorry.  
 09:57:14 **21** **A.** Yeah, there should be. I'm sorry.  
 09:57:17 **22** **Q.** Well that's what was provided to me.  
 09:57:19 **23** Is that another mistake?  
 09:57:20 **24** **A.** Well --  
 09:57:20 **25** MR. COREY GORDON: Object to the form of

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09:57:21 **1** the question.  
 09:57:21 **2** **A.** -- I don't know if it's a mistake. I wish  
 09:57:23 **3** they were there to help you.  
 09:57:24 **4** **Q.** Okay. The bibliography sometimes your name  
 09:57:28 **5** is first and sometimes it's last or in the middle.  
 09:57:30 **6** What does that mean with respect to published papers?  
 09:57:33 **7** **A.** If you're the first author it's you're the  
 09:57:35 **8** one who really did the work, you were at the front  
 09:57:38 **9** line doing the work and should get the credit as the  
 09:57:43 **10** first author. If you're the last author you're  
 09:57:46 **11** usually the person -- the senior member of the team,  
 09:57:50 **12** helped design the study and helped perhaps with the  
 09:57:55 **13** protocol.  
 09:57:56 **14** **Q.** Okay. And you have text books, and  
 09:58:01 **15** journal/book section editor, books for general  
 09:58:04 **16** readership, and monographs. What are the difference  
 09:58:06 **17** between them?  
 09:58:07 **18** **A.** Okay. So under the papers, these are --  
 09:58:12 **19** tend to be peer-reviewed articles published in  
 09:58:16 **20** journals.  
 09:58:17 **21** **Q.** Umm-hmm.  
 09:58:19 **22** **A.** Monographs are sometimes just someone might  
 09:58:22 **23** say, would you give us a review of something like  
 09:58:28 **24** surgical-site infections, for example, and you put  
 09:58:32 **25** together a brief sort of report that's not peer

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09:58:35 **1** reviewed. It might be for a meeting, for example.  
 09:58:41 **2** If you're asking me about the --  
 09:58:43 **3** What's the other thing you asked about, I  
 09:58:45 **4** guess books or something like that --  
 09:58:46 **5** **Q.** Yeah.  
 09:58:46 **6** **A.** -- I wrote? Yeah, I've written -- published  
 09:58:51 **7** already one novel and one non-fiction book, and that's  
 09:58:57 **8** totally separate from the science side.  
 09:59:00 **9** **Q.** I think I said "textbooks." I think you  
 09:59:02 **10** have eight textbooks here.  
 09:59:03 **11** **A.** Oh, I'm sorry. Textbooks. What are  
 09:59:05 **12** textbooks?  
 09:59:06 **13** **Q.** No. I mean, what's the difference between a  
 09:59:08 **14** textbook and a monograph?  
 09:59:09 **15** **A.** Oh a monograph is usually a very brief sort  
 09:59:11 **16** of summary on a particular topic.  
 09:59:14 **17** **Q.** Can a monograph be authoritative?  
 09:59:17 **18** **A.** Less steps than a textbook. Textbooks  
 09:59:19 **19** should be highly referenced in general, so.  
 09:59:23 **20** **Q.** So the "*Handbook on Hospital Acquired*  
 09:59:25 **21** *Infections*," you're the author of that; correct?  
 09:59:28 **22** **A.** That's correct.  
 09:59:29 **23** **Q.** Published in 1981; correct?  
 09:59:30 **24** **A.** Yes.  
 09:59:30 **25** **Q.** You could --

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09:59:30 **1** **A.** What pa -- Well let me just -- I'll go try  
 09:59:33 **2** to find.  
 09:59:34 **3** **Q.** It's under "BIBLIOGRAPHY."  
 09:59:35 **4** **A.** Yeah. Yeah, go ahead.  
 09:59:40 **5** **Q.** Are you there?  
 09:59:40 **6** **A.** Yeah. Thanks.  
 09:59:42 **7** **Q.** Do you consider that book authoritative?  
 09:59:44 **8** **A.** Yes.  
 09:59:44 **9** **Q.** Okay. Do you consider all your writings  
 09:59:45 **10** authoritative?  
 09:59:46 **11** **A.** Well I'm biased, but of course I think I do.  
 09:59:50 **12** **Q.** Okay. Were you --  
 09:59:52 **13** Did you write that whole book or were you  
 09:59:54 **14** just the editor?  
 09:59:55 **15** **A.** No, I'm the editor. When you see all of  
 09:59:57 **16** these basically I'm the editor, and may have written  
 10:00:00 **17** one or more chapters.  
 10:00:01 **18** **Q.** But as the editor you -- you review  
 10:00:03 **19** everything in the book?  
 10:00:04 **20** **A.** Yeah, unfortunately.  
 10:00:05 **21** **Q.** And you agree with everything that's in the  
 10:00:07 **22** -- in the -- in --  
 10:00:08 **23** **A.** I don't know if I'd agree with everything,  
 10:00:10 **24** but at the time that the articles came across I  
 10:00:12 **25** thought they were reasonable.

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10:00:14 **1** **Q.** What do you mean by "reasonable"?  
 10:00:16 **2** **A.** That they summed up the literature  
 10:00:18 **3** accurately. If you ask me to go back, for example, to  
 10:00:21 **4** a 1981 publication, do I still believe that? I may  
 10:00:25 **5** not agree with that.  
 10:00:27 **6** **Q.** Science advances over time; correct?  
 10:00:29 **7** **A.** No, I'm with you.  
 10:00:30 **8** **Q.** Otherwise we'd be stuck in the stone age;  
 10:00:31 **9** correct?  
 10:00:32 **10** **A.** I'm with you.  
 10:00:33 **11** **Q.** Okay. And -- And even though something  
 10:00:39 **12** might be appropriate at the time, some sort of  
 10:00:41 **13** procedure or medication, later on you might find out  
 10:00:44 **14** that it's -- could be harmful to the patient; correct?  
 10:00:46 **15** **A.** Sometimes that happens, yes.  
 10:00:47 **16** **Q.** Okay. I mean, it happens with many products  
 10:00:51 **17** in the world. I mean, we have recalls; correct?  
 10:00:53 **18** MR. COREY GORDON: Object to the form of  
 10:00:54 **19** the question.  
 10:00:54 **20** **A.** Yeah, we do have recalls, meaning -- that's  
 10:00:58 **21** where I guess the government, you mean, gets involved,  
 10:01:01 **22** or the FDA.  
 10:01:02 **23** **Q.** Or it could be a voluntary recall; correct?  
 10:01:04 **24** **A.** Yes, it could be. That's right.  
 10:01:05 **25** **Q.** I mean, you expect corporations to be

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10:01:07 **1** responsible and not put out harmful products into --  
 10:01:10 **2** into the market; correct?  
 10:01:11 **3** **A.** Well I'm an infection control person. I  
 10:01:14 **4** don't want any harmful products.  
 10:01:15 **5** **Q.** Okay. And in fact, you know, you are an  
 10:01:18 **6** infectious disease person and you would understand  
 10:01:19 **7** that a joint infection is a very serious infection.  
 10:01:23 **8** **A.** I've seen a number of patients with  
 10:01:25 **9** prosthetic joint infections. Taking care of them,  
 10:01:28 **10** it's a big deal; they suffer physically, emotionally,  
 10:01:31 **11** sometimes financially. They often have miserable  
 10:01:35 **12** follow-up with repeated INDs, incision drainage. They  
 10:01:40 **13** often have a spacer put in, so then -- then they have  
 10:01:43 **14** the prosthesis taken out and put in. So I feel very  
 10:01:46 **15** sorry for those patients, no question.  
 10:01:48 **16** **Q.** And some of them die.  
 10:01:49 **17** **A.** Occasionally die.  
 10:01:51 **18** **Q.** I mean, it's not like an infection, you  
 10:01:53 **19** know, like strep or something that my kid gets.  
 10:01:56 **20** **A.** Strep can kill you, by the way. I don't  
 10:01:59 **21** want to trivialize --  
 10:02:01 **22** **Q.** I understand that.  
 10:02:03 **23** **A.** -- you or your child.  
 10:02:03 **24** **Q.** But, I mean, much more money is spent on,  
 10:02:07 **25** you know, fixing a joint infection than -- than strep

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10:02:10 **1** in the United States.

10:02:11 **2** **A.** Joint infections are somewhere between 50

10:02:14 **3** and \$90,000 a case is what it's been estimated at.

10:02:19 **4** Strep throat, a lot less.

10:02:23 **5** **Q.** I mean, you agree with me that a joint

10:02:26 **6** infection is probably one of the worst infections a

10:02:28 **7** person can get in their lifetime.

10:02:29 **8** **A.** Well there are a lot of bad things you can

10:02:32 **9** get out there, but it's on my list, and I would pre --

10:02:34 **10** you know, I would put it on your list as a -- if I

10:02:37 **11** were consulting with you. I'd say, you don't want

10:02:38 **12** this one either. You don't want Ebola, you know, you

10:02:42 **13** don't want Zika, you don't want the horrible

10:02:44 **14** flesh-eating strep, and you don't want a hip infection

10:02:47 **15** after a prosthetic joint.

10:02:48 **16** **Q.** And therefore you would agree that doing

10:03:01 **17** everything possible to eliminate joint infections

10:03:05 **18** should be done.

10:03:06 **19** MR. COREY GORDON: Object to the form of

10:03:07 **20** the question.

10:03:07 **21** **A.** I'm an infection control person. I would

10:03:10 **22** love to minimize the risk as much as possible.

10:03:13 **23** **Q.** For example, if you found out that there was

10:03:15 **24** a device in the operating room that was contaminating

10:03:18 **25** the sterile field, you wouldn't want that device in

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10:03:21 **1** the operating room unless it was absolutely necessary;

10:03:23 **2** correct?

10:03:25 **3** **A.** Well you're going to get to the Bair Hugger

10:03:27 **4** I'm sure with that question, but, I mean, I would want

10:03:33 **5** as few organisms around as possible, but I would say

10:03:37 **6** as an epidemiologist does that itself link directly to

10:03:42 **7** infections, and so I would want to know that.

10:03:44 **8** **Q.** Well safety is paramount; correct?

10:03:46 **9** MR. COREY GORDON: Object to the form of

10:03:47 **10** the question.

10:03:47 **11** **A.** Safety -- Safety is very important

10:03:51 **12** paramount, sure.

10:03:51 **13** **Q.** I'm not talking about the Bair Hugger, I'm

10:03:53 **14** just talking about in general. I mean I hope, as a

10:03:55 **15** doctor, if you find out that the device is unsafe and

10:03:58 **16** causes harm to a patient, you wouldn't use it;

10:04:00 **17** correct?

10:04:01 **18** **A.** Given those statistics I would not want to

10:04:03 **19** use it.

10:04:04 **20** **Q.** Okay. And you would agree with me as a

10:04:09 **21** doctor that's maybe performing total hip or total knee

10:04:17 **22** arthroplasties, that you want to do everything you can

10:04:18 **23** to prevent a joint infection because you know how

10:04:21 **24** severe a joint infection is.

10:04:22 **25** MR. COREY GORDON: Object to the form of

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10:04:23 **1** the question, lacks foundation, as -- assumes facts

10:04:27 **2** not in evidence.

10:04:28 **3** **A.** So when you say everything that -- I mean I

10:04:31 **4** try to prepare the patients before surgery, that kind

10:04:34 **5** of thing?

10:04:34 **6** **Q.** You want to do everything from -- from --

10:04:37 **7** from cleanliness of the operating room, to patient

10:04:39 **8** prep, to procedure, technique, to limit the -- the

10:04:44 **9** risk of surgical-site infection during a total hip and

10:04:48 **10** total knee because of the devastating nature of those

10:04:50 **11** types of infections.

10:04:51 **12** **A.** They're definitely devastating, and I would

10:04:54 **13** want the systems in the hospital and the personnel in

10:04:55 **14** the hospital and the environment to be as clean as

10:04:57 **15** possible. I want to lower the rates as much as they

10:05:01 **16** can be lowered.

10:05:02 **17** **Q.** I mean, you wouldn't advise keeping a device

10:05:05 **18** or instrument in the OR that is contaminated and can

10:05:09 **19** increase the risk of a surgical-site infection.

10:05:10 **20** MR. COREY GORDON: Object to the form of

10:05:11 **21** the question.

10:05:11 **22** **A.** So, you know, there's nothing sterile, or

10:05:15 **23** not much sterile in an operating room. The table

10:05:18 **24** itself isn't sterile that you put a patient on. So if

10:05:22 **25** you talk about contamination, do I want to go in and

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10:05:24 **1** try to irradiate the table, as an example. I'd say,

10:05:29 **2** you know, that may be overkill. That table has never

10:05:31 **3** been linked to an infection. You know, recently

10:05:34 **4** there's some studies that looked at using

10:05:38 **5** bioluminescence, for example, and the -- this -- the

10:05:41 **6** tray that you put the instruments on, that's not

10:05:44 **7** totally sterile. It should be. But if that's not

10:05:49 **8** linked to an infection would I want to get rid of the

10:05:52 **9** tray, is that what you're saying?

10:05:53 **10** **Q.** Then you need to really listen to my

10:05:55 **11** question, sir.

10:05:56 **12** **A.** Okay. I'll try to.

10:05:56 **13** **Q.** Let me read my --

10:05:56 **14** **A.** Yeah.

10:05:58 **15** **Q.** I said -- I said contaminated and increases

10:06:00 **16** the risk of infection.

10:06:01 **17** **A.** If you say both, yes.

10:06:02 **18** **Q.** Okay. That's exactly what I said.

10:06:04 **19** **A.** Okay. I was -- I didn't --

10:06:04 **20** **Q.** Let me read the question again.

10:06:06 **21** **A.** Yeah. Go ahead. I didn't hear that first I

10:06:09 **22** guess.

10:06:23 **23** **Q.** You wouldn't advise keeping a device or

10:06:25 **24** instrument in the OR that is contaminated and can

10:06:28 **25** increase the risk of surgical-site infection.

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10:06:30 **1** Do you agree with that?

10:06:31 **2** MR. COREY GORDON: I object to the form of

10:06:32 **3** the question.

10:06:32 **4** **A.** And shown to increase.

10:06:34 **5** **Q.** Yes.

10:06:35 **6** **A.** Not a rare potential, one in a million, but

10:06:39 **7** shown in the -- in the literature to increase

10:06:42 **8** infections. If you say it that way, yes.

10:06:44 **9** **Q.** Okay. In the literature?

10:06:50 **10** **A.** If somebody's done a study, in other words.

10:06:52 **11** **Q.** Okay.

10:06:52 **12** **A.** That's what I'm trying to say.

10:06:55 **13** Documentation. So you say it's contaminated and

10:06:58 **14** linked to infections, I would say, how is it linked to

10:07:01 **15** infection, hopefully in some study.

10:07:03 **16** **Q.** But does it have to be in the literature, or

10:07:05 **17** can it be just from scientific evidence or common

10:07:08 **18** sense?

10:07:09 **19** **A.** Common sense, no. There's a lot of people

10:07:13 **20** -- You know, there's a guy by the name of Galileo who

10:07:17 **21** defied common sense and found out that, you know, the

10:07:20 **22** earth's not the center of the universe. It was common

10:07:22 **23** sense before that.

10:07:42 **24** **Q.** Okay. Do you agree it's the responsibility

10:07:44 **25** of the corporation that manufactures a medical device

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10:07:47 **1** to make sure it's safe?

10:07:49 **2** MR. COREY GORDON: Object to the form of

10:07:49 **3** the question.

10:07:51 **4** **A.** Manufacturers do what?

10:07:51 **5** **Q.** A medical device to make sure it's safe?

10:07:54 **6** **A.** I think, yeah, again, I'm interested in

10:07:56 **7** infection control, I'm interested in safety. If

10:07:58 **8** somebody makes a device, I would hope that they would

10:08:01 **9** make it safe.

10:08:01 **10** **Q.** And they're the -- they're responsible for

10:08:05 **11** making sure it's safe. Don't you agree?

10:08:06 **12** **A.** I would hope --

10:08:06 **13** MR. COREY GORDON: Same objection.

10:08:07 **14** **A.** -- so, yeah.

10:08:08 **15** **Q.** And in fact, I mean, you've been part of

10:08:10 **16** studies, haven't you, where corporations fund studies

10:08:12 **17** of their own products to determine whether or not it's

10:08:17 **18** clinically effective and safe?

10:08:20 **19** **A.** I've done a number of studies on drugs, for

10:08:20 **20** example, used to treat sepsis, and to a one they were

10:08:30 **21** all failures.

10:08:31 **22** (Interruption by the reporter.)

10:08:31 **23** (Discussion off the stenographic

10:08:31 **24** record.)

10:08:34 **25** **A.** To a single one. To every one of them. I'm

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10:08:37 **1** sorry. To a case, if you will, they were all

10:08:42 **2** failures.

10:08:42 **3** **Q.** And --

10:08:43 **4** **A.** And we published, by the way.

10:08:45 **5** **Q.** I understand that.

10:08:46 **6** And those studies were funded by the

10:08:47 **7** manufacturer of those drugs; correct?

10:08:49 **8** **A.** By the pharmaceutical company, yeah.

10:08:51 **9** **Q.** Okay. Because no one else is going to fund

10:08:54 **10** a study regarding their own product.

10:08:56 **11** **A.** Yeah. It's hard sometimes to get NIH to

10:09:00 **12** fund private industry.

10:09:01 **13** **Q.** Okay. So usually private industry usually

10:09:03 **14** funds their own studies to determine the safety of

10:09:05 **15** their -- of their product; correct?

10:09:07 **16** MR. COREY GORDON: Object to the form of

10:09:08 **17** the question.

10:09:08 **18** **A.** Well certainly for drugs, which I have a lot

10:09:11 **19** of experience with, I -- you know, I haven't really --

10:09:14 **20** I don't think I have any studies that I've done on

10:09:16 **21** products.

10:09:17 **22** **Q.** Okay.

10:09:18 **23** **A.** Well urinary catheter apparatus, I have done

10:09:23 **24** studies on those.

10:09:25 **25** **Q.** And who funded that study?

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10:09:26 **1** **A.** Hmm?

10:09:26 **2** **Q.** Who funded that study?

10:09:28 **3** **A.** It was funded by the industry itself, yeah.

10:09:30 **4** **Q.** Okay. Because industry wants to --

10:09:30 **5** **A.** They --

10:09:32 **6** **Q.** -- perform studies to not --

10:09:33 **7** **A.** Show the safety of their product.

10:09:34 **8** **Q.** You have to let me finish.

10:09:35 **9** **A.** I'm sorry. I'm sorry.

10:09:37 **10** **Q.** The manufacturer wants to fund studies to --

10:09:39 **11** to determine whether or not it's effect -- like

10:09:43 **12** clinically effective or a good product, and to

10:09:45 **13** determine whether or not it's safe; correct?

10:09:46 **14** **A.** Yes, that's true.

10:09:47 **15** **Q.** Because safety is paramount; correct?

10:09:50 **16** MR. COREY GORDON: Object to the form of

10:09:52 **17** the question.

10:09:52 **18** MR. ASSAAD: Basis?

10:09:52 **19** **A.** Safety is a --

10:09:53 **20** MR. COREY GORDON: "Paramount" is a --

10:09:54 **21** is -- presumes everything. Safety is an important

10:09:57 **22** consideration, but you can -- you can have a

10:09:59 **23** perfectly safe operation that guarantees that there's

10:10:02 **24** no surgical-site infections by not doing the surgery.

10:10:04 **25** MR. ASSAAD: I'm asking --

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10:10:05 **1** MR. COREY GORDON: There's a balance.  
 10:10:06 **2** MR. ASSAAD: I'm asking for the legal  
 10:10:08 **3** basis, not your --  
 10:10:08 **4** MR. COREY GORDON: The legal balance is  
 10:10:09 **5** that the word "paramount" is vague.  
 10:10:12 **6** MR. ASSAAD: Okay. Then say "vague."  
 10:10:12 **7** MR. COREY GORDON: You were using it in a  
 10:10:13 **8** particular context and he --  
 10:10:14 **9** MR. ASSAAD: For the rec --  
 10:10:15 **10** MR. COREY GORDON: -- he may interpret it  
 10:10:15 **11** and -- as may the jury, in a different context.  
 10:10:17 **12** MR. ASSAAD: For the record, I asked for  
 10:10:18 **13** the objection to my question, and Corey Gordon could  
 10:10:22 **14** have said just, "vague"; however, he went into a  
 10:10:25 **15** one-minute discussion on "paramount" and everything  
 10:10:30 **16** like that.  
 10:10:30 **17** So going forward, Corey, I request that if  
 10:10:33 **18** I ask for a basis just tell me the legal basis, not  
 10:10:35 **19** your reasoning why it's vague, or -- or lack of  
 10:10:39 **20** foundation. Fair enough?  
 10:10:40 **21** MR. COREY GORDON: I'm not going to agree  
 10:10:42 **22** to --  
 10:10:42 **23** MR. ASSAAD: Okay. So you don't want to  
 10:10:43 **24** agree to no speaking objections. I understand.  
 10:10:45 **25** MR. COREY GORDON: I'm not going to agree  
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10:10:47 **1** to your characterizations.  
 10:10:48 **2** MR. ASSAAD: Okay.  
 10:10:49 **3** BY MR. ASSAAD:  
 10:10:53 **4** **Q.** So with respect to a medical device, you  
 10:10:58 **5** would agree with me that the responsibility to  
 10:11:01 **6** determine its safety before it goes on the market is  
 10:11:04 **7** the manufacturer of the medical device; correct?  
 10:11:07 **8** **A.** Yeah. That's why they fund studies, to test  
 10:11:10 **9** both safety and efficacy.  
 10:11:11 **10** **Q.** And they should fund studies; correct?  
 10:11:13 **11** **A.** I would hope they would do a lot of funding.  
 10:11:15 **12** **Q.** Okay. And if -- if there are researchers in  
 10:11:20 **13** the field that are experts in certain areas and -- and  
 10:11:23 **14** recommend research to a manufacturer regarding the  
 10:11:27 **15** safety of their product, they should take that into  
 10:11:31 **16** consideration in whether or not to do research;  
 10:11:33 **17** correct?  
 10:11:34 **18** MR. COREY GORDON: Object to the form of  
 10:11:35 **19** the question.  
 10:11:36 **20** **A.** So you're asking if industry makes a  
 10:11:39 **21** decision as to who does the study; is that what you're  
 10:11:42 **22** getting at?  
 10:11:42 **23** **Q.** No. I'm saying that if there is -- if there  
 10:11:45 **24** is an issue regarding the safety of a product --  
 10:11:47 **25** **A.** Yeah.  
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10:11:47 **1** **Q.** -- and the recommendation by, say, for  
 10:11:50 **2** example, a -- the advisory -- the Scientific Advisory  
 10:11:56 **3** Board member of -- of a corporation that you need to  
 10:12:00 **4** do some research regarding the safety of this product,  
 10:12:03 **5** do you agree that a responsible corporation would  
 10:12:05 **6** consider doing the research?  
 10:12:07 **7** **A.** Yeah. If there was a signal somewhere that  
 10:12:10 **8** the device or a product was unsafe, yeah, they need to  
 10:12:14 **9** go get some more work to prove it one way or another.  
 10:12:18 **10** **Q.** You're aware that Dr. Sessler has done a lot  
 10:12:22 **11** of research regarding maintaining normothermia and the  
 10:12:27 **12** Bair Hugger.  
 10:12:27 **13** **A.** Yeah, he has. I don't know everything that  
 10:12:30 **14** he's done, I have to tell you that.  
 10:12:32 **15** **Q.** Are you aware that he's on the Advisory  
 10:12:34 **16** Board for 3M?  
 10:12:35 **17** **A.** I may have seen that in one of the  
 10:12:37 **18** depositions. I wasn't aware of that --  
 10:12:39 **19** **Q.** Are you aware that --  
 10:12:39 **20** **A.** -- in general.  
 10:12:40 **21** **Q.** -- he ghost wrote, or not ghost wrote, he --  
 10:12:44 **22** he -- I'm sorry -- he submitted a study in 2011  
 10:12:46 **23** regarding particle tests?  
 10:12:48 **24** **A.** I'm not sure I knew that.  
 10:12:49 **25** **Q.** Did you not review the 2011 study by -- by  
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10:12:53 **1** Daniel Sessler and Russ Olmsted?  
 10:12:57 **2** **A.** I may have, I just can't recall the study.  
 10:13:00 **3** **Q.** Do you know who Russ Olmsted is?  
 10:13:02 **4** **A.** No.  
 10:13:05 **5** **Q.** So going back to your CV under your  
 10:13:13 **6** bibliography, it seems like you wrote two books,  
 10:13:20 **7** textbooks in 2014 under "Clinical Decision Support"?  
 10:13:27 **8** **A.** Oh yeah. That's an online text now, --  
 10:13:31 **9** **Q.** Do --  
 10:13:31 **10** **A.** -- resource.  
 10:13:32 **11** **Q.** Do you consider those authoritative?  
 10:13:34 **12** **A.** Yeah.  
 10:13:34 **13** **Q.** Okay.  
 10:13:35 **14** **A.** I'm biased, but.  
 10:13:37 **15** **Q.** Okay.  
 10:13:37 **16** **A.** So you need to know that.  
 10:13:39 **17** **Q.** Under "Journal/Book Section Editor" you have  
 10:13:41 **18** seven articles there under -- seven -- seven  
 10:13:47 **19** journal/book documents.  
 10:13:49 **20** **A.** Where? Where are we?  
 10:13:50 **21** **Q.** Right under "Text Books."  
 10:13:54 **22** **A.** Oh, okay.  
 10:13:55 **23** **Q.** Do you consider those authoritative?  
 10:13:58 **24** **A.** If I was involved at the time I did my best  
 10:14:02 **25** to make those accurate.  
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10:14:04 **1** **Q.** So you consider those accurate and  
 10:14:05 **2** authoritative?  
 10:14:06 **3** **A.** Yeah, at the time that we did it.  
 10:14:08 **4** **Q.** Okay. What are "Books For General  
 10:14:10 **5** Readership," are those the two books, your fiction and  
 10:14:12 **6** nonfiction?  
 10:14:13 **7** **A.** Yeah. I want you to buy one for everybody  
 10:14:15 **8** in your corporation so that they can have a good time.  
 10:14:18 **9** **Q.** Well if you gave me a free copy I may have  
 10:14:20 **10** been able to recommend it.  
 10:14:22 **11** (Laughter.)  
 10:14:22 **12** MR. COREY GORDON: I can recommend it.  
 10:14:29 **13** **A.** I'll send you a copy later. We'll get you a  
 10:14:32 **14** co --  
 10:14:32 **15** MR. COREY GORDON: And I -- I paid for  
 10:14:33 **16** mine.  
 10:14:34 **17** THE WITNESS: I'll give you another one.  
 10:14:36 **18** MS. ZIMMERMAN: If you're reading anything  
 10:14:39 **19** but literature.  
 10:14:39 **20** **Q.** Then, under "Monograph," do you consider  
 10:14:41 **21** those authoritative?  
 10:14:42 **22** **A.** Yeah, they were -- you know, they were  
 10:14:45 **23** trying to be up-to-date summaries, they weren't trying  
 10:14:51 **24** to be in any way in-depth sort of critical reviews.  
 10:14:55 **25** **Q.** But --  
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10:14:55 **1** So, for example, under Doebbeling, Herwaldt,  
 10:14:59 **2** Nettleman, Pfaller and Wenzel, "Hospital-Acquired  
 10:15:02 **3** Infections: New Challenges," 1991, do you consider  
 10:15:05 **4** that authoritative?  
 10:15:07 **5** **A.** It was at the time.  
 10:15:07 **6** Where are we, though? I just want to make  
 10:15:09 **7** sure.  
 10:15:09 **8** **Q.** Under "Monographs," number 2.  
 10:15:13 **9** **A.** Text Books. Oh, I'm sorry.  
 10:15:16 **10** Yeah. I mean, I did my best at the time.  
 10:15:19 **11** **Q.** Who's --  
 10:15:20 **12** Under "A Guide to Infection Control in the  
 10:15:23 **13** Hospital," "Editors," that one interested me because  
 10:15:26 **14** you write: "Over 60,000 copies have been distributed  
 10:15:28 **15** free of charge --  
 10:15:29 **16** **A.** Yeah.  
 10:15:29 **17** **Q.** -- to healthcare workers in the developing  
 10:15:31 **18** world --  
 10:15:32 **19** **A.** Yeah.  
 10:15:33 **20** **Q.** -- countries by the end of 2008."  
 10:15:34 **21** And by the way, you're missing a space in  
 10:15:36 **22** your CV between "countries" and "by." You might want  
 10:15:38 **23** to fix that.  
 10:15:39 **24** MR. COREY GORDON: And "countries" is  
 10:15:40 **25** misspelled.  
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10:15:41 **1** **A.** Oh.  
 10:15:41 **2** MR. ASSAAD: Yes, and that, too.  
 10:15:44 **3** MR. GOSS: Mistakes.  
 10:15:44 **4** **A.** Appreciate that.  
 10:15:47 **5** **Q.** Was this funded by a nonprofit organization,  
 10:15:50 **6** or --  
 10:15:50 **7** **A.** Actually I've been a member of the  
 10:15:52 **8** International Society for Infectious Disease for a  
 10:15:56 **9** long time, and was president roughly, I don't  
 10:15:59 **10** remember, 2008 or '10 or so. And three years before  
 10:16:03 **11** that I was asked by the former president if I would  
 10:16:07 **12** organize a handbook; in other words, something that  
 10:16:09 **13** would fit in a pocket, that would be useful to give to  
 10:16:16 **14** healthcare workers in countries throughout the world  
 10:16:18 **15** that are developing countries that really couldn't  
 10:16:20 **16** afford to buy a text that have no computer resources.  
 10:16:24 **17** So I did that, and the handbook is just what it looks  
 10:16:28 **18** like, about a handbook size.  
 10:16:30 **19** **Q.** And you've updated it periodically, you  
 10:16:32 **20** started in 1998; correct?  
 10:16:33 **21** **A.** Yeah.  
 10:16:34 **22** **Q.** And the last edition was 2008?  
 10:16:36 **23** **A.** No. That's the last one that I -- and  
 10:16:38 **24** actually there are -- there are ones I've passed it  
 10:16:42 **25** over to now, a first editor, Gonzalo Bearman, who's at  
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10:16:47 **1** our institution, and on the last one, which was  
 10:16:50 **2** probably 2014 or '15, I was a senior author or senior  
 10:16:56 **3** editor, if you will. I'm trying to transition to  
 10:16:59 **4** other people. And so for the next one that'll be out  
 10:17:01 **5** in a year or two, I won't be editing that.  
 10:17:06 **6** **Q.** But in any event, you consider that  
 10:17:08 **7** authoritative.  
 10:17:08 **8** **A.** Well it's very good for what we're trying to  
 10:17:11 **9** do.  
 10:17:12 **10** **Q.** Okay.  
 10:17:12 **11** **A.** We're trying to provide resources to --  
 10:17:14 **12** **Q.** Prevent infections.  
 10:17:16 **13** **A.** Absolutely.  
 10:17:18 **14** **Q.** So you consider it authoritative and you're  
 10:17:19 **15** sending it around the world.  
 10:17:20 **16** **A.** Yeah. No. I mean for -- But it's  
 10:17:21 **17** targeting, particularly, countries that have limited  
 10:17:24 **18** resources, so it's not -- it's not an in-depth review,  
 10:17:28 **19** it's really trying to focus as much as possible on the  
 10:17:31 **20** problems they face.  
 10:17:32 **21** **Q.** But you agree with everything in it;  
 10:17:34 **22** correct?  
 10:17:36 **23** **A.** Yes, I think so. I've read -- everything  
 10:17:37 **24** that I have put there I pretty much have reviewed.  
 10:17:40 **25** **Q.** You're the editor.  
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10:17:41 **1** **A.** Yeah.

10:17:42 **2** **Q.** Okay. And you're the first-named editor;

10:17:45 **3** correct?

10:17:47 **4** **A.** Most of the time there. With all this,

10:17:48 **5** yeah.

10:17:48 **6** **Q.** I mean you were primari --

10:17:49 **7** **A.** I am now there.

10:17:50 **8** **Q.** But during this time you were primarily

10:17:53 **9** responsible for the book.

10:17:53 **10** **A.** That's correct, yeah.

10:17:54 **11** **Q.** Okay. And I assume that you edited and

10:17:55 **12** reviewed everything that was in -- in here.

10:17:56 **13** **A.** I have, yeah.

10:17:58 **14** **Q.** Okay. And if there's something that you

10:17:59 **15** disagree with it you would have objected to putting it

10:18:02 **16** in there.

10:18:02 **17** **A.** Yeah, or if you find something, I'll take it

10:18:04 **18** look at it.

10:18:05 **19** **Q.** Okay. And do you -- do you consider all

10:18:09 **20** your publications or papers authoritative?

10:18:14 **21** **A.** Well given my bias, which I've told you

10:18:17 **22** before, --

10:18:17 **23** **Q.** Okay.

10:18:18 **24** **A.** -- I'd like to think so.

10:18:20 **25** **Q.** Whether or not you were the advisor or the

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10:18:22 **1** first-named author, you consider it authoritative.

10:18:24 **2** **A.** Yeah. I read -- I read the papers that I'm

10:18:26 **3** involved in, yeah.

10:18:28 **4** **MR. ASSAAD:** Let's take a break for the

10:18:29 **5** court reporter.

10:18:30 **6** **THE WITNESS:** Okay.

10:18:30 **7** **THE REPORTER:** Thank you. Off the record.

10:18:33 **8** (Recess taken from 10:18 to 10:31 a.m.)

10:31:02 **9** (Discussion off the stenographic record.)

10:31:02 **10** **BY MR. ASSAAD:**

10:31:11 **11** **Q.** You mention --

10:31:12 **12** We talked about particles briefly, in -- in

10:31:19 **13** the operating room, and that they can carry bacteria.

10:31:23 **14** Do you agree with me that the reduction of

10:31:32 **15** airborne particles in an operating room is beneficial?

10:31:39 **16** **MR. COREY GORDON:** Object to the form of

10:31:40 **17** the question.

10:31:43 **18** **A.** So I haven't seen any data to show the

10:31:47 **19** reduction in airborne particles actually reduces

10:31:52 **20** infection rates with maybe, you know, one exception,

10:31:59 **21** the Darouiche study that's more recent where he looked

10:32:03 **22** at particles in bacteria and he modeled particles in

10:32:10 **23** bacteria and said that they correlate, but he actually

10:32:16 **24** didn't show, in a prospective way, that they reduced

10:32:21 **25** infections because he didn't do any microbiology. So

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10:32:24 **1** there might be a signal out there, but I'm not aware

10:32:27 **2** of any study that said if I took out Staph -- now

10:32:33 **3** you're just talking about particles maybe, I'm sorry,

10:32:35 **4** maybe I'm mixing this up -- but if I reduce particles

10:32:39 **5** that I would have fewer infection rates. I think

10:32:43 **6** that's what a lot of the laminar flow studies actually

10:32:47 **7** showed didn't occur.

10:32:52 **8** **Q.** So I'm guessing your opinion --

10:32:53 **9** **A.** Yeah.

10:32:54 **10** **Q.** Do you have an opinion whether or not the --

10:33:02 **11** the number of particles over a surgical site have an

10:33:07 **12** effect on surgical-site infections?

10:33:13 **13** **A.** So I guess I would say it this way. If I

10:33:17 **14** knew that there was a hundred percent sort of particle

10:33:21 **15** to bacteria, I'm more interested in bacteria than I am

10:33:25 **16** particles. They're both surrogate markers for what

10:33:30 **17** really is going on. What we really want to know is

10:33:33 **18** what can we do to stop the endpoint, surgical-site

10:33:37 **19** infections. And so then there are some studies that

10:33:39 **20** have tried to say, if I have particles, you know, I

10:33:43 **21** have bacteria. Not all studies have really shown the

10:33:47 **22** same thing always, so there's some discrepancy between

10:33:51 **23** the relationship of particles and bacteria. And

10:33:55 **24** again, the second part of that is if you have bacteria

10:34:00 **25** and -- do they cause the infection.

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10:34:03 **1** **Q.** Okay. So my question is again, do you have

10:34:06 **2** an opinion -- do you have an opinion whether or not

10:34:14 **3** the number of particles over a surgical site have an

10:34:18 **4** effect on surgical-site infections; "yes" or "no"?

10:34:21 **5** **MR. COREY GORDON:** Object to the form of

10:34:22 **6** the question, asked and answered.

10:34:23 **7** **A.** Yeah, I think what I'm trying to do is give

10:34:27 **8** you the best answer I can, you know, --

10:34:28 **9** **Q.** Well --

10:34:29 **10** **A.** -- that, you know, we don't have complete

10:34:32 **11** data yet to really say that particles equal

10:34:37 **12** infections.

10:34:37 **13** **Q.** Okay. So you're not saying that particles

10:34:40 **14** do not equal infections, and you're not saying that

10:34:43 **15** particle -- increased particles increase infections,

10:34:45 **16** you're just saying that there's not enough data.

10:34:47 **17** **A.** Yes.

10:34:48 **18** **Q.** So my understanding is you don't have an

10:34:50 **19** opinion at this point in time whether or not the

10:34:52 **20** number of particles over a surgical site increase the

10:34:55 **21** risks of surgical-site infections.

10:34:57 **22** **MR. COREY GORDON:** Object to the form of

10:34:57 **23** the question.

10:34:59 **24** **A.** I don't think there are data to say that if

10:35:02 **25** you have a certain number it's going to predict an

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10:35:05 **1** infection.

10:35:05 **2** **Q.** So you have no opinion at this time.

10:35:07 **3** **A.** Well that's my opinion.

10:35:09 **4** **Q.** Well your opinion is that there's no data.

10:35:11 **5** **A.** Yeah. We need more data.

10:35:13 **6** **Q.** Okay. So your opinion is you don't have an

10:35:16 **7** --

10:35:16 **8** Okay. Do you agree that if you increase the

10:35:19 **9** number of particles you increase the risk of

10:35:21 **10** surgical-site infection?

10:35:22 **11** MR. COREY GORDON: Object to the form of

10:35:22 **12** the question.

10:35:27 **13** **A.** Yeah, I don't think -- I don't think there

10:35:28 **14** are data that really show that, so.

10:35:29 **15** **Q.** So you don't agree with that.

10:35:31 **16** **A.** Yeah.

10:35:32 **17** **Q.** So you don't agree with that.

10:35:33 **18** **A.** I don't agree with it.

10:35:35 **19** **Q.** Do you agree that you if you reduce the

10:35:36 **20** numbers of particles you decrease the risk of

10:35:39 **21** surgical-site infection?

10:35:39 **22** **A.** And again I've cited the studies from the

10:35:42 **23** laminar airflow would clearly reduce the number of

10:35:44 **24** particles, didn't reduce the number of infections.

10:35:46 **25** **Q.** So you don't agree with that.

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10:35:48 **1** **A.** That's right.

10:35:48 **2** **Q.** Okay. So you don't agree that if you reduce

10:35:50 **3** the number of particles over the surgical site, you

10:36:00 **4** don't reduce -- you don't reduce the --

10:36:00 **5** **A.** Yeah, I think we have firm evidence on that.

10:36:00 **6** (Interruption by the reporter.)

10:35:49 **7** THE REPORTER: So you don't agree that if

10:35:50 **8** you reduce the number of particles over the surgical

10:35:50 **9** site?

10:36:02 **10** **Q.** -- you reduce the risk of surgical-site

10:36:03 **11** infections.

10:36:04 **12** **A.** Yeah. The only signal that I would even

10:36:06 **13** point to would be Darouiche.

10:36:09 **14** **Q.** Do you consider Darouiche an expert?

10:36:12 **15** **A.** I think he's done really good work, yeah.

10:36:14 **16** So I think he's good.

10:36:15 **17** **Q.** So you consider him an expert?

10:36:17 **18** **A.** Yeah.

10:36:30 **19** **Q.** You do understand that hospitals spend a

10:36:35 **20** significant amount of money to reduce the particle

10:36:38 **21** load in an operating room.

10:36:40 **22** MR. COREY GORDON: Object to the form of

10:36:42 **23** the question.

10:36:42 **24** **A.** Say that again if you would.

10:36:42 **25** **Q.** Hos --

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10:36:43 **1** I mean, you understand that there is an HVAC

10:36:46 **2** system in the operating room; correct?

10:36:47 **3** **A.** Yes.

10:36:47 **4** **Q.** And it's -- there are -- there are standards

10:36:50 **5** in many states regarding the type of filtration to be

10:36:54 **6** used in an operating room.

10:36:55 **7** MR. COREY GORDON: Object to the form of

10:36:57 **8** the question and lack of foundation.

10:36:58 **9** **A.** I -- I think there are standards.

10:37:00 **10** **Q.** Have you heard of ASHRAE?

10:37:01 **11** **A.** Yes.

10:37:02 **12** **Q.** Okay. And you understand for an operating

10:37:05 **13** room, most operating rooms contain two filters?

10:37:08 **14** **A.** Yeah, I think they're MERV 14 or something

10:37:11 **15** like that.

10:37:11 **16** **Q.** It's a MERV 7 for the prefilter and the MERV

10:37:14 **17** 14 for the final filter. Do you --

10:37:16 **18** Have you heard that before?

10:37:18 **19** **A.** I've heard the 14.

10:37:19 **20** **Q.** Okay. And you understand the purpose of

10:37:20 **21** that is to reduce the number of airborne contaminants

10:37:26 **22** in the operating room; correct?

10:37:26 **23** **A.** Yes.

10:37:27 **24** **Q.** Okay. And you agree with that; correct?

10:37:29 **25** **A.** I do.

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10:37:44 **1** **Q.** Okay. And you understand that in an

10:37:46 **2** operating room they control for humidity to limit the

10:37:49 **3** amount of bacterial growth.

10:37:51 **4** MR. COREY GORDON: Object to the form of

10:37:52 **5** the question.

10:37:52 **6** **A.** Yeah, I don't know the relationship to

10:37:54 **7** humidity.

10:37:55 **8** **Q.** Okay. So you're not -- you don't -- you

10:37:57 **9** have done no research or have no understanding how

10:37:59 **10** humidity affects bacterial growth?

10:38:01 **11** **A.** True.

10:38:03 **12** **Q.** Okay. And you're not an expert in

10:38:04 **13** filtration; correct?

10:38:06 **14** **A.** No, only in the sense I don't want to

10:38:10 **15** completely -- if you're talking about all filters and

10:38:13 **16** nothing to do with infectious diseases, where they

10:38:15 **17** interact I think I can make an opinion. But no, I'm

10:38:18 **18** not an expert just in filters.

10:38:21 **19** **Q.** You agree that the cleanest air that's

10:38:28 **20** coming into the operating room is coming through the

10:38:30 **21** vents.

10:38:32 **22** MR. COREY GORDON: Object -- Object to the

10:38:34 **23** form of the question, and lack of foundation.

10:38:35 **24** **A.** You mean the filtered air is cleaner than

10:38:38 **25** somewhere else?

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10:38:38 **1** **Q.** Yes.

10:38:38 **2** **A.** Yeah.

10:38:40 **3** **Q.** Where do you think the greatest bioburden is

10:38:42 **4** in the operating room?

10:38:46 **5** **A.** I just saw a bioluminescence study that says

10:38:49 **6** the side of the table, I think, in one study. And I'm

10:38:54 **7** not an expert in where the greatest bioburden is, but

10:38:58 **8** so that's the recent study that looked like that.

10:39:00 **9** **Q.** Side of the surgical table?

10:39:02 **10** **A.** And the computer, actually, was very -- was

10:39:05 **11** very high numbers.

10:39:06 **12** **Q.** But the computer is outside of the -- the

10:39:08 **13** sterile field; correct?

10:39:10 **14** **A.** It's --

10:39:10 **15** MR. COREY GORDON: Object to the form of

10:39:11 **16** the question.

10:39:11 **17** **A.** -- outside the sterile field.

10:39:12 **18** **Q.** It's behind the surgeons actually; correct?

10:39:14 **19** **A.** Yeah.

10:39:15 **20** **Q.** Do you agree that there is a significant

10:39:19 **21** amount of bioburden around the surgical table and

10:39:21 **22** underneath the surgical table?

10:39:23 **23** MR. COREY GORDON: Object to the form of

10:39:23 **24** the question.

10:39:24 **25** **A.** So in that one study that I saw with the

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10:39:27 **1** bioluminescence is the only data that I know about

10:39:30 **2** burden.

10:39:31 **3** **Q.** Okay. So you only rely on literature and

10:39:33 **4** not on any type of scientific reasoning that you could

10:39:39 **5** draw from that literature?

10:39:40 **6** MR. COREY GORDON: Object to the form of

10:39:41 **7** the question.

10:39:44 **8** **A.** So I'm not sure of the difference. I mean I

10:39:47 **9** would have said the literature -- You read the data,

10:39:50 **10** and then you interpret the data based on maybe a host

10:39:54 **11** of other studies, and together you come up with an

10:39:57 **12** opinion.

10:39:58 **13** **Q.** I understand that. But sometimes you want

10:40:00 **14** to do research and you'll have a hypothesis; correct?

10:40:03 **15** **A.** Yeah. I'm not sure how that relates to the

10:40:05 **16** earlier question.

10:40:07 **17** **Q.** Well I'm saying, like, well you know that

10:40:09 **18** the air coming out of the vents is filtered air;

10:40:11 **19** correct?

10:40:11 **20** **A.** Yes.

10:40:12 **21** **Q.** And you know that there is many people in

10:40:14 **22** the operating room around the surgical table; correct?

10:40:16 **23** **A.** Yeah. Yeah.

10:40:16 **24** **Q.** There is the patient; correct?

10:40:18 **25** **A.** Yeah.

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10:40:18 **1** **Q.** There is probably two or three people

10:40:20 **2** performing the surgery in an orthopedic surgery;

10:40:22 **3** correct?

10:40:22 **4** **A.** Yes.

10:40:23 **5** **Q.** And there is an anesthesiologist; correct?

10:40:25 **6** **A.** Yes, there is.

10:40:26 **7** **Q.** And they are shedding skin squames; correct?

10:40:30 **8** **A.** Yeah. People who have studied that said

10:40:32 **9** yeah.

10:40:33 **10** **Q.** Do you disagree with that?

10:40:34 **11** **A.** No.

10:40:35 **12** **Q.** Okay. And therefore, you would agree with

10:40:38 **13** me that the airflow is pushing down the skin squames

10:40:43 **14** to the floor area; correct?

10:40:45 **15** MR. COREY GORDON: Object to the form of

10:40:45 **16** the question, lack of foundation.

10:40:46 **17** **A.** Well I don't know that the airflow is only

10:40:48 **18** pushing things down to the floor. I don't know that.

10:40:50 **19** **Q.** Okay. So sitting here today you don't know

10:40:53 **20** where the greatest bio -- like where the greatest

10:40:56 **21** bioburden is in the operating room, in the air of the

10:40:58 **22** operating room?

10:40:58 **23** **A.** No, --

10:40:58 **24** MR. COREY GORDON: Object to the form of

10:40:59 **25** the question.

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10:40:59 **1** **A.** -- the only study is the one I cited.

10:41:02 **2** **Q.** Okay.

10:41:03 **3** **A.** And you know what I'm talking about,

10:41:04 **4** Richard?

10:41:05 **5** **Q.** Yes.

10:41:05 **6** **A.** Yeah.

10:41:07 **7** **Q.** Now you do understand that the surgeons and

10:41:20 **8** the staff in the operating room are trained not to put

10:41:23 **9** their hands below the operating room table.

10:41:26 **10** **A.** I think that's right.

10:41:27 **11** **Q.** Why is that?

10:41:32 **12** **A.** I think that they just try to keep things

10:41:34 **13** right near the field, that's my -- I'm guessing a

10:41:36 **14** little bit on that, but.

10:41:38 **15** **Q.** So as an infectious disease person you don't

10:41:42 **16** understand why they -- they want to keep their hands

10:41:43 **17** -- they're trained to keep their hands always above

10:41:45 **18** the operating room table?

10:41:46 **19** **A.** Well I think they don't want to touch the

10:41:49 **20** side of the table.

10:41:50 **21** **Q.** Yeah, but they're not evened allowed to put

10:41:52 **22** their hands down, and not touch anything.

10:41:54 **23** MR. COREY GORDON: Object to the form of

10:41:55 **24** the question.

10:41:55 **25** **Q.** Do you agree with that?

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10:41:59 **1** **A.** Yeah, I don't -- I can't say I've seen rules  
 10:41:59 **2** for that or anything, and you may be right.  
 10:42:01 **3** **Q.** Okay. So you don't know -- you don't -- you  
 10:42:05 **4** haven't read any literature on -- or strike that.  
 10:42:06 **5** You haven't looked at procedures or been  
 10:42:09 **6** involved in any training discussing --  
 10:42:12 **7** **A.** Where they hold their hands.  
 10:42:13 **8** **Q.** -- or training nurses -- or nurses and  
 10:42:15 **9** surgeons to keep their hands above the operating room  
 10:42:16 **10** table to avoid for their hands to be contaminated.  
 10:42:19 **11** **A.** I didn't do any research on that, I haven't  
 10:42:21 **12** --  
 10:42:21 **13** **Q.** Okay.  
 10:42:22 **14** **A.** -- seen it.  
 10:42:23 **15** **Q.** By the way, before getting involved in this  
 10:42:26 **16** case did you do -- did you know anything about the  
 10:42:27 **17** Bair Hugger?  
 10:42:29 **18** **A.** The only thing I knew was the Kurz study was  
 10:42:35 **19** pretty much it.  
 10:42:36 **20** **Q.** The 1996 *New England Journal of Medicine*?  
 10:42:39 **21** **A.** That's right.  
 10:42:39 **22** **Q.** Okay.  
 10:42:40 **23** **A.** I may have read Melling, but, you know, I  
 10:42:43 **24** just remember the Kurz study.  
 10:42:45 **25** **Q.** Do you know what the difference between the

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10:42:46 **1** Melling study and the Kurz study is?  
 10:42:48 **2** **A.** I do.  
 10:42:48 **3** **Q.** What's the difference?  
 10:42:50 **4** **A.** Well in the Kurz study the authors  
 10:42:55 **5** randomized 200 patients who were undergoing colorectal  
 10:42:59 **6** surgery to warm air with the Bair Hugger, to ambient  
 10:43:06 **7** air, it was double blind study as a result of the --  
 10:43:09 **8** using the ambient air, and the outcome was  
 10:43:13 **9** surgical-site infections. I'm not sure if you want to  
 10:43:16 **10** know any more about that.  
 10:43:19 **11** Melling, which was published in 2001,  
 10:43:24 **12** actually took patients who were expected to have a  
 10:43:29 **13** surgical time of about 50 minutes or less --  
 10:43:33 **14** (Interruption by the reporter.)  
 10:43:34 **15** THE WITNESS: Fifty, five-oh.  
 10:43:34 **16** **A.** -- they were clean surgery, there were 421  
 10:43:39 **17** patients who were randomized. What was different was  
 10:43:43 **18** that they pre-warmed the patients for 30 minutes or  
 10:43:47 **19** more, and... And again, just like the Melling, they  
 10:43:51 **20** showed a 3-to-1 ratio, three times the risk of  
 10:43:54 **21** infection in the warmed patients versus the non-warmed  
 10:43:57 **22** patients. And I want to point out the consistency of  
 10:44:03 **23** that 3-to-1 ratio.  
 10:44:05 **24** **Q.** Okay. So you do understand that Melling was  
 10:44:06 **25** pre-warming; correct?

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10:44:07 **1** **A.** Yes.  
 10:44:08 **2** **Q.** Okay. It wasn't perioperative warming.  
 10:44:10 **3** **A.** That's correct.  
 10:44:11 **4** **Q.** Okay. And I'm sure you're aware of studies  
 10:44:13 **5** that -- recent studies done by Dr. Sessler and others,  
 10:44:18 **6** that forced-air warming has very little effect on core  
 10:44:24 **7** temperature for the first hour when you're warming  
 10:44:28 **8** perioperatively.  
 10:44:28 **9** MR. COREY GORDON: Object to the form of  
 10:44:29 **10** the question.  
 10:44:30 **11** **A.** Yeah, I don't -- I don't know that it has no  
 10:44:32 **12** effect or very little effect in the first hour.  
 10:44:36 **13** **Q.** Well you're aware of those studies; correct?  
 10:44:38 **14** **A.** I remember hearing --  
 10:44:38 **15** MR. COREY GORDON: Object to the form of  
 10:44:39 **16** the question.  
 10:44:39 **17** **A.** -- about but I just can't cite them.  
 10:44:41 **18** **Q.** Okay. So you're not going to -- I mean --  
 10:44:45 **19** Well you understand that Kurz was 1996;  
 10:44:48 **20** correct?  
 10:44:49 **21** **A.** It was 1996.  
 10:44:50 **22** **Q.** And you understand that Kurz actively cooled  
 10:44:53 **23** patients for the control.  
 10:44:55 **24** MR. COREY GORDON: Object to the form of  
 10:44:55 **25** the question.

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10:44:55 **1** **A.** Kept them at ambient air, yes.  
 10:44:58 **2** **Q.** Well they didn't keep them am -- They blew  
 10:45:01 **3** ambient air --  
 10:45:01 **4** **A.** Blew ambient air, --  
 10:45:01 **5** **Q.** -- which would be  
 10:45:03 **6** **A.** -- hooked them up ambient air.  
 10:45:04 **7** **Q.** Which would be a cooling effect on a  
 10:45:06 **8** patient; correct?  
 10:45:06 **9** **A.** Yes.  
 10:45:07 **10** **Q.** Okay. That would be unethical today;  
 10:45:08 **11** correct?  
 10:45:09 **12** **A.** Every -- With the effect of warming,  
 10:45:11 **13** particularly warming a surgical-site infections,  
 10:45:14 **14** nobody should go to the operating room without being  
 10:45:16 **15** warmed.  
 10:45:17 **16** **Q.** But you would -- you agree you wouldn't be  
 10:45:18 **17** able to do a study and cool patients today.  
 10:45:21 **18** **A.** No, no. That's what I'm saying.  
 10:45:21 **19** **Q.** You could be --  
 10:45:22 **20** **A.** They have to be warm.  
 10:45:24 **21** **Q.** Okay. And -- And Melling was pre-warming;  
 10:45:27 **22** correct?  
 10:45:28 **23** **A.** Melling was pre-warming. But there are data  
 10:45:30 **24** to show that the pre-warming actually last up to three  
 10:45:32 **25** hours. I've cited that in my report.

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10:45:34 **1** **Q.** Okay. And that's a good thing; correct?

10:45:36 **2** **A.** I think it's a good thing.

10:45:37 **3** **Q.** So you would agree with me that, for

10:45:40 **4** example, total hip and total knee arthroplasty, that

10:45:45 **5** you could just pre-warm a patient because its effects

10:45:48 **6** are for three hours and most of the surgeries last

10:45:50 **7** below three hours.

10:45:51 **8** **A.** I don't know anybody --

10:45:51 **9** MR. COREY GORDON: Object to the form of

10:45:51 **10** the question.

10:45:56 **11** THE WITNESS: I'm sorry. I didn't mean to

10:45:56 **12** interrupt, Corey.

10:45:57 **13** **A.** I don't know anybody who's totally done

10:45:59 **14** pre-warming with total hips and knees, if that's what

10:46:02 **15** you're asking.

10:46:03 **16** **Q.** You agree with me that there's no study out

10:46:05 **17** there that -- that looked at the -- the effects of

10:46:10 **18** warming a patient and periprosthetic joint infection.

10:46:12 **19** **A.** That's not quite accurate, because what I've

10:46:14 **20** done is show some cohort studies, if you want to refer

10:46:19 **21** to those in my report.

10:46:20 **22** **Q.** Can you just give me the name of the study?

10:46:23 **23** **A.** So the --

10:46:24 **24** Well the first was -- I have a chart

10:46:26 **25** actually in my report. On the top of the chart it

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10:46:29 **1** will say there's a study from Hopkins, there were fi

10:46:34 **2** -- I think I had six -- five or six cohorts. There

10:46:39 **3** was a second study that was done by Leijtens in

10:46:43 **4** Denmark, and that was total hips and total knees.

10:46:48 **5** **Q.** Which is the chart you're referring to?

10:46:52 **6** **A.** Is this my report? Yeah. (Witness

10:46:58 **7** reviewing exhibit.) So page 8. So let's look at --

10:47:04 **8** under number 2, this was by Leijtens, it was done in

10:47:11 **9** Holland, total hips and knees. And what they show --

10:47:14 **10** They -- These people addressed the question, to put it

10:47:17 **11** in perspective, if patients were warmed or -- you

10:47:21 **12** know, during the operation compared to those who

10:47:24 **13** remained hypothermic, was there a difference. And as

10:47:30 **14** you can see, there is a risk ratio of being cool of

10:47:34 **15** 3.7. And I would point out again that if you look at

10:47:37 **16** Melling or you look at Kurz, it's about three times

10:47:41 **17** the risk of infections --

10:47:41 **18** **Q.** But the P value --

10:47:43 **19** **A.** -- if you're cool.

10:47:44 **20** **Q.** P value is .061; correct?

10:47:44 **21** (Interruption by the reporter.)

10:47:48 **22** **A.** .061.

10:47:48 **23** THE WITNESS: I'm sorry.

10:47:49 **24** **Q.** And you agree with me that the only

10:47:51 **25** infections were in total hip and not in the total

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10:47:53 **1** knee.

10:47:53 **2** **A.** I don't remember. I think that's probably

10:47:54 **3** right, but I don't remember.

10:47:55 **4** **Q.** Okay. And basically there was four out of

10:48:00 **5** 109 that were hypothermic, and three out of 306 that

10:48:07 **6** were normothermic; correct?

10:48:08 **7** **A.** Yeah, I don't have it in front of me.

10:48:10 **8** **Q.** Okay.

10:48:10 **9** **A.** But I've said seven -- I have in the chart

10:48:13 **10** 27 percent total.

10:48:14 **11** **Q.** Okay. And --

10:48:18 **12** **A.** And nobody, by the way, with that .06 is

10:48:22 **13** going to discard that. If you were having hip surgery

10:48:25 **14** and you were in Holland and you -- and I'm telling you

10:48:27 **15** you have three times the risk plus if you weren't

10:48:30 **16** warmed, are you going to argue with me as a patient

10:48:33 **17** say the P was only .06? I don't think so.

10:48:36 **18** **Q.** You agree with me that all the patients were

10:48:38 **19** warmed with the Bair Hugger in that study.

10:48:40 **20** **A.** They were Bair Hugger.

10:48:40 **21** **Q.** And all of them were warmed; correct?

10:48:43 **22** **A.** Did you say all of them were warmed?

10:48:44 **23** **Q.** I mean they all were warmed with the Bair

10:48:47 **24** Hugger device.

10:48:47 **25** **A.** That was the -- As far as I understand,

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10:48:48 **1** yeah.

10:48:49 **2** **Q.** And so basically for a significant number of

10:48:52 **3** them that were warmed with the Bair Hugger, they still

10:48:54 **4** became hypothermic; correct?

10:48:57 **5** **A.** That's correct.

10:48:58 **6** **Q.** Okay. So that might indicate that there

10:49:00 **7** might be something else besides warming a patient that

10:49:03 **8** affects hypothermia.

10:49:05 **9** MR. COREY GORDON: Object to the form of

10:49:06 **10** the question, lack of foundation.

10:49:09 **11** **A.** Say that again to make sure I follow you.

10:49:11 **12** **Q.** Well they were all warmed with the Bair

10:49:12 **13** Hugger; correct?

10:49:13 **14** **A.** They were. They were.

10:49:14 **15** **Q.** And even though you were warmed with the

10:49:15 **16** Bair Hugger, a significant amount of patients, 27

10:49:17 **17** percent, became hypothermic; correct?

10:49:19 **18** **A.** That's correct.

10:49:20 **19** **Q.** Okay. So it is possible that there's

10:49:22 **20** something else besides warming that caused

10:49:27 **21** hypothermia.

10:49:27 **22** MR. COREY GORDON: Object to the form of

10:49:28 **23** the question.

10:49:29 **24** **Q.** That's a bad question.

10:49:30 **25** The patients became hypothermic even though

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10:49:33 **1** they were warmed.

10:49:34 **2** **A.** That's easier to answer, yeah. And I have

10:49:36 **3** the -- the 27 percent. That's the figure I reported.

10:49:38 **4** **Q.** So you weren't comparing the use of Bair

10:49:41 **5** Hugger versus the non-use of Bair Hugger with respect

10:49:44 **6** to infection rates in that study; correct?

10:49:46 **7** **A.** Only the endpoint, whether you were warmed

10:49:49 **8** with the Bair Hugger versus not warmed.

10:49:51 **9** **Q.** So you could have been warmed with a -- a

10:49:55 **10** convective blanket in that case; correct?

10:49:59 **11** **A.** They weren't, but if you're asking me as

10:50:01 **12** long as the patient's warmed, do you think they'll do

10:50:03 **13** better?

10:50:04 **14** **Q.** Okay.

10:50:04 **15** **A.** That hasn't been done. I'd love to see a

10:50:07 **16** HotDog versus the Bair Hugger studied.

10:50:09 **17** **Q.** You've never seen that?

10:50:11 **18** **A.** Oh. Never seen a straightforward,

10:50:14 **19** randomized controlled trial of one versus the other,

10:50:16 **20** no.

10:50:17 **21** **Q.** Okay. You've never seen a study that was

10:50:20 **22** authored by -- one of the authors was Andrea Kurz on

10:50:22 **23** that study? That wasn't provided to you by the

10:50:25 **24** defense?

10:50:26 **25** **A.** That was the first study you mean?

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10:50:27 **1** **Q.** No. A study with Andrea Kurz and a few --

10:50:29 **2** and Kimberger?

10:50:30 **3** **A.** Tell me about this study.

10:50:32 **4** **Q.** Where they compared the HotDog to the -- the

10:50:35 **5** -- the HotDog to the Bair Hugger to see whether or not

10:50:38 **6** --

10:50:38 **7** **A.** In a prospective clinical trial? I don't

10:50:41 **8** remember that study.

10:50:42 **9** **Q.** Do you only count prospective clinical

10:50:44 **10** trials?

10:50:45 **11** **A.** Well in the hierarchy of quality of

10:50:47 **12** evidence, to me that's number one.

10:50:49 **13** **Q.** Some people disagree with that, though;

10:50:50 **14** correct?

10:50:51 **15** **A.** Some might.

10:50:52 **16** **Q.** Okay. And then we could eliminate number 1,

10:50:55 **17** number 3, and number -- and number 4 because they

10:50:57 **18** didn't deal with total hip and total knee; correct?

10:50:59 **19** **A.** Well I don't think I would --

10:51:00 **20** MR. COREY GORDON: Object to the form of

10:51:01 **21** the question.

10:51:02 **22** **A.** Yeah. I don't think I would eliminate

10:51:03 **23** number 4 either, because I think they were -- they

10:51:06 **24** were orthopedic patients with hip fractures. I don't

10:51:08 **25** think that I would say positively they would -- that

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10:51:11 **1** doesn't have any relevance to --

10:51:13 **2** **Q.** Well let's look at being warmed and not

10:51:16 **3** being warmed, --

10:51:16 **4** **A.** Yeah.

10:51:17 **5** **Q.** -- okay? And that's number 5; correct?

10:51:19 **6** **A.** Yes.

10:51:20 **7** **Q.** Which is the Frisch study; correct?

10:51:21 **8** **A.** Yeah. That's right.

10:51:22 **9** **Q.** And the Frisch study said, hey, it doesn't

10:51:24 **10** matter if you're being warmed because 1 percent got

10:51:27 **11** infections if you were warmed and 1 percent didn't get

10:51:29 **12** it if you weren't warmed; correct?

10:51:30 **13** **A.** So I put that study in to let you know that

10:51:32 **14** --

10:51:32 **15** **Q.** You disagree with it.

10:51:34 **16** **A.** -- I looked at all literature and didn't

10:51:36 **17** just cherry-pick anything.

10:51:38 **18** Now if I want to look at that study, let's

10:51:40 **19** talk about it. Look at the high proportion, for some

10:51:43 **20** reason, that never -- that got cool, 43, thirty -- 44

10:51:48 **21** and 33 percent. And there are a couple other weird

10:51:52 **22** things. The follow-up was six weeks. So really hard

10:51:55 **23** to pick up a lot of deep infections in six weeks.

10:51:58 **24** They didn't regulate the temperature in that study in

10:52:02 **25** the operating room, as you know. And they did

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10:52:06 **1** something strange. They said, if you were giving

10:52:10 **2** logical anesthesia they didn't warm the patients

10:52:13 **3** unless the patients became hypothermic.

10:52:17 **4** So a lot of weird things about that study.

10:52:18 **5** But the data, I'm trying to tell you, I didn't try to

10:52:22 **6** hide anything, I put it in there.

10:52:23 **7** **Q.** But we're seeing 44 percent were

10:52:27 **8** hypothermic.

10:52:27 **9** **A.** Yeah.

10:52:28 **10** **Q.** Okay. And -- And -- Of total hip, and 33

10:52:34 **11** percent were hypothermic for total knee; correct?

10:52:39 **12** **A.** That's right.

10:52:39 **13** **Q.** Okay. And you saw no difference in

10:52:41 **14** infection.

10:52:41 **15** **A.** That's correct.

10:52:42 **16** **Q.** Okay. And that was 2017; correct?

10:52:44 **17** **A.** That's right.

10:52:44 **18** **Q.** And out of all the studies dealing with

10:52:47 **19** total hip and total knee that you've listed, that had

10:52:49 **20** the highest number of participants.

10:52:53 **21** **A.** Don't remember the numbers, but maybe.

10:52:56 **22** **Q.** You have it right here under number of

10:52:57 **23** patients.

10:52:57 **24** **A.** Oh, okay. I see what you're saying.

10:52:59 **25** **Q.** You have 600 and --

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10:53:00 **1** **A.** Yeah.

10:53:00 **2** **Q.** Okay. You have 2,397; correct?

10:53:03 **3** **A.** Yeah. Of the hips and anything to do with

10:53:05 **4** orthopedics, right.

10:53:07 **5** **Q.** And you said a study of only looking at six

10:53:09 **6** weeks will not pick up deep joint infections?

10:53:12 **7** **A.** Might miss a lot of them.

10:53:14 **8** **Q.** Okay. Because they may -- they may occur

10:53:16 **9** one year after; correct?

10:53:17 **10** **A.** Could be, but at least out three months. I

10:53:19 **11** don't know why you wouldn't do that.

10:53:21 **12** **Q.** I mean some of them even occur two years;

10:53:23 **13** correct?

10:53:23 **14** **A.** Some people show up two years later. It's

10:53:26 **15** always hard to know, you know, did they have an

10:53:30 **16** interim -- intermittent bloodstream infection, but out

10:53:31 **17** to a year --

10:53:33 **18** (Interruption by the reporter.)

10:53:34 **19** **A.** -- intermittent bloodstream infection that

10:53:35 **20** landed on the device.

10:53:37 **21** **Q.** And -- And there are -- there are some case

10:53:39 **22** studies out there that indicate that they could have

10:53:43 **23** had -- come up and be five years later if there's no

10:53:47 **24** intermittent infection. They trace it back to the

10:53:48 **25** implant surgery.

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10:53:48 **1** **A.** I've heard that there are case reports like

10:53:49 **2** that, yeah. I can't cite any.

10:53:52 **3** **Q.** But you've heard of it; right?

10:53:53 **4** **A.** Yeah.

10:53:54 **5** **Q.** And you don't disagree with it.

10:53:55 **6** **A.** If it's a real report, it's a real report,

10:53:58 **7** that's what happened.

10:53:58 **8** **Q.** And -- And --

10:53:59 **9** **A.** But what I'm saying is some -- it's really

10:54:01 **10** hard as a clinician, facing those patients, was that

10:54:04 **11** patient infected at the time of surgery, just so we're

10:54:06 **12** clear, or did they went to the dentist, they have

10:54:09 **13** horrible teeth, they had a -- you know, some

10:54:11 **14** manipulation in the mouth and they got a secondary

10:54:13 **15** bacteremia and they settled on the prosthesis. Five

10:54:16 **16** years out you can't tell.

10:54:18 **17** **Q.** Well you know that secondary bacterium

10:54:21 **18** theory is under a lot of dispute.

10:54:23 **19** **A.** It might be under dispute, but I'm telling

10:54:24 **20** you as a clinician standing in front of the patient.

10:54:28 **21** **Q.** Okay. I understand that, but it's not

10:54:31 **22** settled whether or not secondary bacterium from the

10:54:35 **23** mouth causes a periprosthetic joint infection. You've

10:54:39 **24** read articles --

10:54:39 **25** **A.** That's the deba --

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10:54:40 **1** There's a debate going on as to whether or

10:54:41 **2** not these patients should all be screened by their

10:54:44 **3** oral surgeons or not beforehand because it's a worry.

10:55:18 **4** **Q.** Okay. And since you believe that the most

10:55:26 **5** likely cause of a surgical-site infection is patient

10:55:30 **6** flora, then you would agree with me that the

10:55:34 **7** likelihood that the anesthesia machine caused a

10:55:38 **8** surgical-site infection is very low.

10:55:41 **9** MR. COREY GORDON: Object to the form of

10:55:43 **10** the question.

10:55:44 **11** **A.** In general I think that's true.

10:55:47 **12** **Q.** Okay.

10:55:48 **13** **A.** Would there be an exception, an outbreak or

10:55:50 **14** something like that where something happened? Yeah.

10:55:51 **15** But that's what I would say in general, yes, I think

10:55:53 **16** it's low.

10:55:54 **17** **Q.** We're talking probabilities here.

10:55:55 **18** **A.** Yeah. No, I'm with you.

10:55:57 **19** **Q.** And you agree with me that the probability

10:55:59 **20** that a surgical light causes a surgical-site infection

10:56:03 **21** is very low.

10:56:05 **22** (Interruption by the reporter.)

10:56:05 **23** **A.** Yeah, I don't think I've seen any studies

10:56:08 **24** related to that.

10:56:08 **25** **Q.** And you'd agree with me that comput -- the

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10:56:11 **1** likelihood that computer monitors cause a

10:56:13 **2** surgical-site infection, or the fans in them cause a

10:56:16 **3** surgical-site infection is very low.

10:56:18 **4** **A.** Yeah. I haven't seen any data linking them.

10:56:23 **5** **Q.** Okay. And you agree with me that the

10:56:26 **6** computer console and the equipment in them, the

10:56:29 **7** likelihood of them causing a surgical-site infection

10:56:31 **8** is very low.

10:56:33 **9** **A.** And again I can't cite any papers that link

10:56:35 **10** them, yeah.

10:56:36 **11** **Q.** So you agree with me.

10:56:37 **12** **A.** Yeah.

10:56:37 **13** **Q.** Okay. You agree with me that the

10:56:41 **14** electrocautery device itself has a very low likelihood

10:56:49 **15** of causing a surgical-site infection.

10:56:52 **16** **A.** Based on not having any data, yeah.

10:56:54 **17** **Q.** So you agree with me.

10:56:55 **18** You agree with me that a bovie is very

10:57:01 **19** unlikely to cause a surgical-site infection.

10:57:03 **20** MR. COREY GORDON: Object to the form of

10:57:04 **21** the question, also I guess that's asked and answered.

10:57:07 **22** **A.** I just -- Yeah, I just don't know any data

10:57:09 **23** with the bovie or the knife or...

10:57:19 **24** **Q.** You agree with me that sterile surgical

10:57:36 **25** drapes are very unlikely to cause a surgical-site

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10:57:39 **1** infection.

10:57:40 **2** MR. COREY GORDON: Object to the form of

10:57:42 **3** the question.

10:57:42 **4** **A.** I would say that anything sterile is

10:57:45 **5** unlikely to cause an infection.

10:58:23 **6** **Q.** You agree with me that the cabinets along

10:58:26 **7** the walls are very unlikely to cause a surgical-site

10:58:30 **8** infection.

10:58:31 **9** **A.** Same answer. I haven't seen any data. I

10:58:34 **10** think it's unlikely.

10:58:35 **11** **Q.** You agree with me that the suction drain

10:58:38 **12** that's in the operating room is very unlikely to cause

10:58:40 **13** a surgical-site infection.

10:58:42 **14** **A.** Yeah, I think drains have been known to

10:58:44 **15** harbor certain organisms like Pseudomonas, but again,

10:58:48 **16** if you say standard procedures that have been, you

10:58:53 **17** know, done to try to minimize that, I think it's

10:58:55 **18** unlikely.

10:58:56 **19** **Q.** And when I ask you these questions, doctor,

10:58:58 **20** let's just assume that the hospital, the doctors and

10:59:01 **21** the nurses are following the standard of care.

10:59:02 **22** **A.** I'm with you.

10:59:02 **23** **Q.** Okay.

10:59:05 **24** **A.** I'll follow that.

10:59:05 **25** **Q.** Okay. Like, for example --

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10:59:05 **1** **A.** I like infection control, so I'm with you.

10:59:07 **2** I'll imagine the perfect hospital.

10:59:09 **3** **Q.** Okay. Like, for example, we're not

10:59:10 **4** expecting a nurse to take off her mask and sneeze

10:59:13 **5** right into the surgical site, you know, okay?

10:59:16 **6** **A.** I would hope so.

10:59:17 **7** **Q.** Okay. You agree with me that sterilized

10:59:25 **8** surgical instruments are very unlikely to cause a

10:59:27 **9** surgical-site infection.

10:59:28 **10** MR. COREY GORDON: Object to the form of

10:59:29 **11** the question.

10:59:29 **12** **A.** Yeah, in general again, anything sterile.

10:59:32 **13** Now once they're used they're no longer sterile, but,

10:59:36 **14** yes, I think that's true, and I agree with you.

10:59:39 **15** **Q.** Yeah, I understand that when you cut the

10:59:41 **16** skin they may no longer be sterile; correct?

10:59:43 **17** **A.** Yes. That's correct.

10:59:44 **18** **Q.** However, you do understand that in

10:59:45 **19** orthopedic implant surgeries the standard of care is

10:59:48 **20** after you make the first incision -- or some surgeons

10:59:50 **21** would say after you make the first incision to switch

10:59:53 **22** the scalpel.

10:59:54 **23** **A.** Yes.

10:59:54 **24** MR. COREY GORDON: Object to the form of

10:59:55 **25** the question, lack of foundation, assumes facts not

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10:59:59 **1** in evidence.

11:00:00 **2** THE WITNESS: Sorry.

11:00:07 **3** **Q.** The drop buckets for a used sponge, do you

11:00:10 **4** agree with me that they're very unlikely to cause a

11:00:13 **5** surgical-site infection?

11:00:14 **6** **A.** Again I'll say the same thing, you know, I

11:00:16 **7** don't know any data, so I think it's low probability.

11:00:32 **8** **Q.** And same question with the trash receptacle.

11:00:35 **9** You agree with me the trash receptacle is very

11:00:37 **10** unlikely to cause a surgical-site infection.

11:00:39 **11** **A.** Yes.

11:00:41 **12** **Q.** And do you agree with me that surgeons

11:00:45 **13** moving their hands is very unlikely to cause a

11:00:50 **14** surgical-site infection?

11:00:51 **15** MR. COREY GORDON: Object to the form of

11:00:53 **16** the question.

11:00:54 **17** **A.** So a surgeon doing surgery is moving his

11:00:57 **18** hands.

11:00:57 **19** **Q.** He's moving his hands like this

11:00:59 **20** [demonstrating].

11:00:59 **21** **A.** Yeah. And is that a cause, assuming that

11:01:04 **22** nothing else is happening? Yeah, I don't think the

11:01:06 **23** movement of hands. Now people talk about the movement

11:01:09 **24** of hands creating more particles and whether that's

11:01:14 **25** linked, we talked about that earlier. It's hard to

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11:01:16 **1** show a link with particles and surgical-site

11:01:19 **2** infections.

11:01:56 **3** **Q.** Have you read Dr. Mont's expert report?

11:01:59 **4** **A.** Yes, I did look at that.

11:02:00 **5** **Q.** Okay.

11:02:01 **6** **A.** Yeah.

11:02:01 **7** **Q.** Do you criticize anything in his report?

11:02:04 **8** **A.** Yeah, I don't think I saw anything that I'd

11:02:06 **9** criticize.

11:02:06 **10** **Q.** Okay. Do you believe that -- Have you read

11:02:06 **11** --

11:02:37 **12** Have you read all the defense expert

11:02:38 **13** reports, all the -- all 12 others?

11:02:41 **14** **A.** No, I don't think I read 12.

11:02:43 **15** **Q.** Okay. Have you read Dr. Ho's expert report?

11:02:47 **16** **A.** No, I didn't see that.

11:02:49 **17** **Q.** Have you read Dr. Kuehn's expert report?

11:02:51 **18** **A.** No.

11:02:51 **19** **Q.** Have you read Dr. Abraham's expert report?

11:02:57 **20** **A.** No.

11:03:00 **21** **Q.** So what expert reports have you read? Dr.

11:03:04 **22** Borak?

11:03:04 **23** **A.** Borak, Holford.

11:03:08 **24** On this side of the table you mean?

11:03:09 **25** **Q.** Yes.

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11:03:11 **1** **A.** Mont. I'm not sure who else. I think that  
 11:03:18 **2** -- that may be it, I don't remember.  
 11:03:20 **3** **Q.** Have you met Dr. Mont?  
 11:03:22 **4** **A.** Just at Science Day is the only time.  
 11:03:24 **5** **Q.** Have you met anyone from 3M in preparation  
 11:03:25 **6** of your expert report?  
 11:03:27 **7** **A.** No.  
 11:03:28 **8** **Q.** Have you not met Al Van Duren?  
 11:03:30 **9** **A.** No.  
 11:03:30 **10** **Q.** Have you read Al Van Duren's deposition?  
 11:03:32 **11** **A.** No.  
 11:03:33 **12** **Q.** You haven't read his 30(b)(6) deposition?  
 11:03:36 **13** **A.** No.  
 11:03:36 **14** **Q.** Do you know what a 30(b)(6) --  
 11:03:36 **15** **A.** No, --  
 11:03:37 **16** **Q.** -- deposition is?  
 11:03:38 **17** **A.** -- have no idea.  
 11:03:39 **18** **Q.** So have you --  
 11:03:41 **19** Have you read Gary Hansen's deposition?  
 11:03:44 **20** **A.** No.  
 11:03:44 **21** **Q.** Have you read any other --  
 11:03:45 **22** Have you read any other depositions besides  
 11:03:47 **23** expert depositions?  
 11:03:48 **24** **A.** No, I don't think so.  
 11:03:49 **25** **Q.** Well that's not exactly true, --  
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11:03:49 **1** MR. COREY GORDON: Yeah.  
 11:03:51 **2** **Q.** -- and I apologize for that.  
 11:03:52 **3** MR. COREY GORDON: Kurz and Sessler.  
 11:03:53 **4** **A.** Oh, I'm sorry.  
 11:03:55 **5** **Q.** You've read the depositions listed in  
 11:03:56 **6** Exhibit --  
 11:03:56 **7** **A.** Yeah. I'm sorry. I didn't -- I thought you  
 11:03:58 **8** meant from 3M or something.  
 11:04:00 **9** **Q.** Exhibit, I think it's 3?  
 11:04:03 **10** MR. COREY GORDON: 2.  
 11:04:06 **11** **Q.** 2.  
 11:04:06 **12** So besides these depositions listed in  
 11:04:08 **13** Exhibit 2, what other depositions -- Strike that.  
 11:04:11 **14** You've read Holford, Borak and Mont. Any  
 11:04:14 **15** other depositions you reviewed that are on the defense  
 11:04:17 **16** side?  
 11:04:20 **17** **A.** I don't -- I don't think so. I don't recall  
 11:04:22 **18** any other ones.  
 11:04:38 **19** **Q.** You actually -- Before I get there.  
 11:04:40 **20** And you've read the depositions of  
 11:04:46 **21** plaintiffs' experts; correct?  
 11:04:48 **22** **A.** I read Jarvis, Samet, and I think I've read  
 11:04:57 **23** Augustine.  
 11:04:58 **24** **Q.** You think Augustine is on the plaintiffs'  
 11:05:00 **25** side?  
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11:05:00 **1** **A.** Oh, I'm sorry. I don't --  
 11:05:03 **2** Do I think he's on the plaintiffs' side? I  
 11:05:07 **3** thought so.  
 11:05:08 **4** **Q.** Why did you think that? Did someone tell  
 11:05:13 **5** you that?  
 11:05:14 **6** **A.** No. I mean, he -- he is in charge of the  
 11:05:16 **7** company making the competitor.  
 11:05:19 **8** **Q.** Well there's a lot of competitors, aren't  
 11:05:21 **9** there?  
 11:05:21 **10** **A.** Well I think that's the key one we're  
 11:05:23 **11** focusing on if we're really going to be talking man to  
 11:05:26 **12** man here. That's the one that's --  
 11:05:27 **13** **Q.** Let's talk man to man.  
 11:05:29 **14** **A.** Yeah.  
 11:05:29 **15** **Q.** Let's talk man to man.  
 11:05:31 **16** (Laughter.)  
 11:05:32 **17** MS. ZIMMERMAN: I'm going to excuse myself  
 11:05:33 **18** for this.  
 11:05:34 **19** (Laughter.)  
 11:05:34 **20** THE WITNESS: I'm sorry. I meant that as  
 11:05:36 **21** kind of a joke.  
 11:05:38 **22** **Q.** So, I mean, have you heard of VitaHEAT?  
 11:05:40 **23** **A.** No, I don't --  
 11:05:40 **24** **Q.** VitaHEAT was a competitor of 3M that 3M just  
 11:05:43 **25** bought. Are you aware of that?  
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11:05:45 **1** **A.** No, I didn't.  
 11:05:45 **2** MR. COREY GORDON: Object to the form of  
 11:05:46 **3** the question, assumes facts not in evidence.  
 11:05:46 **4** THE WITNESS: Sorry.  
 11:05:48 **5** **Q.** Are you aware of Mistral?  
 11:05:49 **6** **A.** No.  
 11:05:49 **7** **Q.** Are you aware of WarmTouch?  
 11:05:51 **8** **A.** I've heard of WarmTouch, yeah.  
 11:05:51 **9** **Q.** Okay.  
 11:05:52 **10** **A.** I think WarmTouch is what they use at  
 11:05:54 **11** Hopkins.  
 11:05:55 **12** **Q.** Okay. So there's other forced-air warming  
 11:05:57 **13** devices as well as convective devices; --  
 11:05:57 **14** **A.** Yeah.  
 11:05:59 **15** **Q.** -- correct?  
 11:06:00 **16** **A.** Yeah.  
 11:06:01 **17** **Q.** Okay. And you're aware that, you know,  
 11:06:05 **18** other competitors of 3M have done research to compare  
 11:06:09 **19** their product to the Bair Hugger.  
 11:06:14 **20** **A.** I don't -- I mean, the only ones I've seen  
 11:06:16 **21** have really been the HotDog and, you know, and, let's  
 11:06:23 **22** say, Augustine's new study which I don't know if it's  
 11:06:27 **23** --  
 11:06:27 **24** **Q.** I don't want to talk about that today.  
 11:06:28 **25** **A.** -- it's on the table or not, but yeah.  
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11:06:34 **1** **Q.** I mean, there's -- there's Warm --

11:06:37 **2** **A.** And the McGovern study I mean obviously is

11:06:39 **3** the big study you have for your side of the table.

11:06:43 **4** **Q.** Well is that what someone told you?

11:06:43 **5** **A.** Not --

11:06:47 **6** Are you asking me if someone told me that?

11:06:49 **7** **Q.** I mean -- I mean, you say you thought --

11:06:50 **8** **A.** Why do I say that?

11:06:52 **9** **Q.** -- you thought Augustine was on the

11:06:53 **10** plaintiffs' side. Why would you make that assumption?

11:06:56 **11** **A.** Because he compared, you know, his product

11:07:00 **12** to the Bair Hugger in the new study --

11:07:03 **13** **Q.** You're aware that --

11:07:03 **14** **A.** -- which you don't want to talk about, but.

11:07:05 **15** **Q.** You're aware that Augustine invented the

11:07:07 **16** Bair Hugger; correct?

11:07:08 **17** **A.** I do, yeah.

11:07:09 **18** **Q.** Okay. So do you criticize any of his older

11:07:11 **19** studies that he did on Bair Hugger before he left

11:07:15 **20** Arizant?

11:07:15 **21** **A.** I don't know if I know all of his old

11:07:17 **22** studies, but I think -- you know my opinion. I think

11:07:20 **23** the Bair Hugger works, I think there are no data out

11:07:24 **24** there to definitively link it to harm.

11:07:28 **25** **Q.** Well we have two studies that you just

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11:07:29 **1** indicated that you -- that it support your opinion

11:07:32 **2** that Bair Hugger works for total hip and total knee.

11:07:36 **3** One said it doesn't make a difference, --

11:07:38 **4** **A.** Umm-hmm.

11:07:39 **5** **Q.** -- and the other was where they compared

11:07:42 **6** Bair Hugger -- and one where the Bair Hugger was used

11:07:45 **7** all the time and indicated even when you used the Bair

11:07:48 **8** Hugger that it didn't maintain hypothermia; correct?

11:07:52 **9** MR. COREY GORDON: Object to the form of

11:07:53 **10** the question, mischaracterizes his testimony, --

11:07:54 **11** **Q.** Isn't that what those studies say?

11:07:56 **12** MR. COREY GORDON: Let me finish my

11:07:58 **13** objection, please.

11:07:58 **14** MR. ASSAAD: Okay.

11:07:59 **15** MR. COREY GORDON: -- misstates the

11:07:59 **16** evidence, form.

11:08:00 **17** **Q.** We can go back if you want, doctor.

11:08:02 **18** Do you want to go back? Let's go back.

11:08:04 **19** **A.** Let's do that. That'd be fine.

11:08:05 **20** **Q.** Let's be 100 percent correct what these

11:08:08 **21** studies say.

11:08:08 **22** **A.** Yeah, that's fine.

11:08:09 **23** **Q.** Because we want to be accurate; correct?

11:08:11 **24** **A.** Yes.

11:08:11 **25** **Q.** We don't want to be an advocate for the

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11:08:13 **1** defense. You want to be --

11:08:13 **2** **A.** I'm not an advocate.

11:08:15 **3** **Q.** You want to be objective; correct?

11:08:16 **4** **A.** Yes. That's --

11:08:16 **5** **Q.** Okay.

11:08:16 **6** **A.** That's good.

11:08:17 **7** **Q.** Being objective is really important when

11:08:18 **8** thousands of people's -- of lives are at stake;

11:08:21 **9** correct?

11:08:21 **10** **A.** Yes.

11:08:22 **11** **Q.** Okay. And what page are you looking at,

11:08:25 **12** sir?

11:08:26 **13** **A.** Page 8.

11:08:27 **14** **Q.** Okay. So let's look at the two studies that

11:08:29 **15** dealt with total hip and total knee.

11:08:31 **16** **A.** Yep.

11:08:32 **17** **Q.** Okay. One was the one in Holland; correct?

11:08:34 **18** **A.** Yes.

11:08:35 **19** **Q.** Where Bair Hugger was used on all the

11:08:36 **20** patients; correct?

11:08:37 **21** **A.** Yes. That's my understanding.

11:08:38 **22** **Q.** And even when the Bair Hugger is used, 27

11:08:41 **23** percent of the people still became hypothermic;

11:08:43 **24** correct?

11:08:44 **25** **A.** That's correct.

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11:08:44 **1** **Q.** That would indicate that the Bair Hugger may

11:08:48 **2** not maintain normothermia during a surgery; correct?

11:08:51 **3** **A.** For that study that's correct.

11:08:52 **4** **Q.** Okay. And that looks --

11:08:54 **5** And that showed a 3.7 percent if they were

11:08:58 **6** --

11:08:58 **7** **A.** No, not "percent." It's a risk ratio.

11:09:00 **8** **Q.** You have percent there, sir.

11:09:01 **9** **A.** Oh, I'm sorry. It's both.

11:09:03 **10** **Q.** Okay. And one per -- if they're

11:09:06 **11** hypothermic; correct?

11:09:06 **12** **A.** Yes.

11:09:07 **13** **Q.** So there might be something else in the oper

11:09:10 **14** --

11:09:10 **15** MR. COREY GORDON: I think you misstated

11:09:12 **16** that.

11:09:13 **17** MR. ASSAAD: I don't think I misstated it.

11:09:15 **18** MR. COREY GORDON: You said one percent if

11:09:17 **19** they're hypothermic.

11:09:17 **20** MR. ASSAAD: I said -- I thought I said

11:09:19 **21** "warmed." Did I say --

11:09:19 **22** **A.** One percent if warmed, versus 3.7 if

11:09:22 **23** hypothermic.

11:09:23 **24** **Q.** Okay. And the p value was -- would indicate

11:09:26 **25** to many people out in the research field that it's not

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11:09:29 **1** statistically significant; correct?

11:09:31 **2** MR. COREY GORDON: Object to the form of

11:09:32 **3** the question.

11:09:32 **4** **A.** I think many people who are out there would

11:09:34 **5** not blow this off at .06.

11:09:37 **6** **Q.** They would do further studies, wouldn't

11:09:39 **7** they?

11:09:42 **8** **A.** Well they probably would do further studies,

11:09:44 **9** yes. But I think no one would discount that is what

11:09:48 **10** I've told you earlier if I were advising a patient and

11:09:52 **11** that's all we had.

11:09:53 **12** **Q.** Okay. But we could agree with this study on

11:09:56 **13** number 2, the Holland study on Exhibit 1, page 8, that

11:10:01 **14** the Bair Hugger, even when used, still may not

11:10:05 **15** maintain normothermia; correct?

11:10:07 **16** **A.** That's true.

11:10:08 **17** **Q.** Okay. And then let's look at the study that

11:10:10 **18** indicate that when the Bair Hugger is used and not

11:10:13 **19** used; correct? And we see that when the Bair Hugger

11:10:19 **20** is used --

11:10:20 **21** **A.** Which study are you on?

11:10:21 **22** **Q.** Number 5, the Frisch study.

11:10:23 **23** **A.** Okay. Yeah.

11:10:24 **24** **Q.** Okay.

11:10:26 **25** -- there is a 1 percent infection rate;

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11:10:29 **1** correct?

11:10:29 **2** **A.** Yes.

11:10:30 **3** **Q.** And when the Bair Hugger is not used there

11:10:33 **4** is a 1 percent infection rate; correct?

11:10:35 **5** **A.** Yes.

11:10:36 **6** **Q.** Okay. So the Frisch study indicates that --

11:10:40 **7** the Frisch study actually tested the infection rates

11:10:42 **8** when the Bair Hugger is used as compared to when the

11:10:46 **9** Bair Hugger is not used; correct?

11:10:51 **10** **A.** Used versus not used?

11:10:52 **11** **Q.** Yeah.

11:10:54 **12** **A.** Well they looked at who got cool with the

11:10:56 **13** Bair Hugger versus who didn't get cool with the Bair

11:10:59 **14** Hugger.

11:10:59 **15** **Q.** You mean warm.

11:11:00 **16** **A.** Huh?

11:11:01 **17** **Q.** You mean warm.

11:11:02 **18** **A.** Warmed. I'm sorry.

11:11:02 **19** **Q.** We're not cooling with Bair Huggers; are we?

11:11:05 **20** **A.** We're what?

11:11:05 **21** **Q.** We're not cooling with Bair Huggers.

11:11:07 **22** **A.** No, no. I'm sorry.

11:11:08 **23** **Q.** Okay. That would be unethical; correct?

11:11:09 **24** **A.** No, but the percent --

11:11:10 **25** What I'm saying is, you know, they had the

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11:11:12 **1** percent here who were under 36 degrees, no question,

11:11:15 **2** in a high proportion, unusually high proportion. A

11:11:18 **3** lot of strange things which I've already documented

11:11:21 **4** about this study. But that's what they showed; no

11:11:25 **5** difference, one percent at face value.

11:11:27 **6** **Q.** And every -- every study has limitations;

11:11:28 **7** correct?

11:11:30 **8** **A.** Every study can be looked at carefully.

11:11:31 **9** **Q.** Okay. And if you're an advocate you're

11:11:34 **10** going to discredit the studies and look at their

11:11:39 **11** limitations, and if you're an advocate for a side

11:11:42 **12** you're going to not look at the limitations.

11:11:51 **13** **A.** Well --

11:11:51 **14** MR. COREY GORDON: Object to the form of

11:11:51 **15** the question.

11:11:51 **16** **A.** -- I don't think that's true.

11:12:03 **17** **Q.** Okay.

11:12:03 **18** (Interruption by the reporter.)

11:12:07 **19** (Discussion off the stenographic record.)

11:12:09 **20** BY MR. ASSAAD:

11:12:12 **21** **Q.** So going back to what depositions you've

11:12:14 **22** read, you've been working on this case for -- since

11:12:22 **23** 2015; correct?

11:12:24 **24** **A.** I think that's right.

11:12:24 **25** **Q.** Okay. So over -- almost --

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11:12:26 **1** **A.** Two years.

11:12:27 **2** **Q.** -- two, two and a half years; correct?

11:12:29 **3** And you actually have seen internal

11:12:31 **4** documents from 3M; isn't that true?

11:12:35 **5** **A.** I don't know what documents you're talking

11:12:36 **6** about.

11:12:36 **7** **Q.** I mean, you've read depositions in the

11:12:38 **8** Walton case.

11:12:39 **9** **A.** Oh, I have seen those. Is that what you

11:12:41 **10** mean by that?

11:12:41 **11** **Q.** Yes.

11:12:43 **12** **A.** In the Walton case, yeah.

11:12:45 **13** **Q.** And you --

11:12:45 **14** And you've read depositions and you've had

11:12:49 **15** internal documents provided to you in the Walton case.

11:12:52 **16** **A.** Yeah, I haven't looked at Walton for, you

11:12:53 **17** know, almost the two years so I can't remember all the

11:12:55 **18** things I looked at or not, but I had certainly read

11:12:58 **19** everything that I could get my hands on and that they

11:13:02 **20** sent.

11:13:02 **21** **Q.** Okay. And were you told not to include any

11:13:06 **22** of the -- any internal documents --

11:13:09 **23** **A.** No.

11:13:09 **24** **Q.** -- in -- in your report?

11:13:13 **25** **A.** No.

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11:13:14 **1** **Q.** Okay. When'd you start writing your report?

11:13:38 **2** **A.** I tend to not wait till the last second, so

11:13:42 **3** I probably started, I'm going to estimate, even a year

11:13:46 **4** ago, you know, just to fill out the general areas, you

11:13:53 **5** know, what data were available from clinical trials,

11:13:55 **6** pretty much trying to look at the hierarchy of the

11:14:03 **7** clinical quality, so then I had cohorts, case-control

11:14:08 **8** studies and if I learned anything more, and then

11:14:11 **9** eventually increased the size of the tables if I was

11:14:14 **10** making a table.

11:14:16 **11** **Q.** So you're telling me the report that you

11:14:17 **12** wrote in Walton --

11:14:19 **13** **A.** Oh, Walton, way back when.

11:14:22 **14** **Q.** Did you not use any of that report in this

11:14:23 **15** report?

11:14:25 **16** **A.** Yeah, there probably were some same things

11:14:28 **17** in terms of the background, some of the same studies,

11:14:31 **18** but I think I kept finding more and more studies is

11:14:34 **19** all I'm saying, in more recent time.

11:14:39 **20** **Q.** I understand that, but you started working

11:14:41 **21** on this report probably during Walton; correct?

11:14:43 **22** **A.** Yeah. That's fair.

11:14:44 **23** **Q.** Okay.

11:14:44 **24** **A.** I mean I did a report for Walton, and then,

11:14:48 **25** you know, when I was asked to make comments there was

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11:14:51 **1** only one patient.

11:14:53 **2** **Q.** And this was on May 29th, 2015.

11:14:55 **3** **A.** It was way back.

11:14:56 **4** **Q.** Okay. And you didn't start all over in this

11:15:01 **5** case; did you?

11:15:02 **6** **A.** No. I had the basic -- a basic report for

11:15:05 **7** Walton, that's true.

11:15:06 **8** **Q.** Okay. All right. And so you've been

11:15:11 **9** working on this report since early of 2015.

11:15:13 **10** **A.** Yeah, you could say that.

11:15:15 **11** **Q.** I mean, your Walton report is -- is

11:15:18 **12** approximately 40 pages; --

11:15:24 **13** **A.** Umm-hmm.

11:15:24 **14** **Q.** -- correct?

11:15:25 **15** Does that sound about right?

11:15:26 **16** **A.** I don't remember, but that's about right,

11:15:28 **17** yeah.

11:15:28 **18** **Q.** Okay. Have you compared your Walton report

11:15:31 **19** to -- to your current report which is Exhibit 1?

11:15:34 **20** **A.** I -- I haven't gone back and tried to look

11:15:37 **21** line by line or area by area. My guess, it comports

11:15:42 **22** to similar things.

11:15:53 **23** **MR. ASSAAD:** I only have one copy of this,

11:15:54 **24** but let's mark this as Exhibit Number?

11:16:01 **25** **THE REPORTER:** Five.

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11:16:01 **1** (Discussion off the stenographic record.)

11:16:01 **2** (Wenzel Exhibit 5 marked for

11:16:31 **3** identification.)

11:16:31 **4** (Discussion off the stenographic record.)

11:16:36 **5** **BY MR. ASSAAD:**

11:16:37 **6** **Q.** I represent to you that Exhibit Number 5 is

11:16:42 **7** a copy of part of your Walton report that indicates

11:16:46 **8** the materials that you reviewed in preparation of the

11:16:49 **9** Walton report. Does that look familiar?

11:16:52 **10** **MR. COREY GORDON:** Object to the form of

11:16:53 **11** the question, mischaracterizes the document.

11:16:55 **12** **A.** I don't remember this at all, no.

11:16:58 **13** **Q.** Can I see that document real quick, because

11:17:00 **14** I only have one copy?

11:17:01 **15** **A.** Yeah, sure. (Handing.)

11:17:02 **16** **Q.** Do you recall reading the depositions of any

11:17:04 **17** of those individuals during the Walton case?

11:17:13 **18** **A.** I actually don't remember any of that, no.

11:17:15 **19** Can't recall.

11:17:16 **20** **Q.** Can I have it again, sir?

11:17:16 **21** **A.** (Handing.)

11:17:21 **22** **Q.** Did you look at medical records in the

11:17:22 **23** Walton case?

11:17:23 **24** **A.** I did.

11:17:24 **25** **Q.** Okay. Did you ever look at the operating

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11:17:31 **1** manual for the Bair Hugger Model 750?

11:17:34 **2** **A.** I think I looked at that some time ago. I

11:17:38 **3** don't remember much about it, but.

11:17:40 **4** **Q.** It's not listed in Exhibit 1 anywhere.

11:17:42 **5** **A.** Yeah.

11:17:42 **6** **Q.** Or in the documents that you considered.

11:17:45 **7** **A.** I may have looked at that with the Walton

11:17:47 **8** case or something way back when, but I just don't

11:17:50 **9** remember.

11:17:51 **10** **Q.** Do you remember receiving many internal

11:17:53 **11** documents, as indicated here in Exhibit 5, from 3M?

11:17:57 **12** **A.** I just can't recall that, so I don't know.

11:18:00 **13** Yeah.

11:18:01 **14** **Q.** Well what's been provided today, --

11:18:04 **15** **A.** Yeah.

11:18:04 **16** **Q.** -- are those all the documents that were

11:18:06 **17** provided to you by any of the attorneys for 3M, from

11:18:08 **18** Blackwell Burke or from Greenberg Traurig?

11:18:12 **19** **MR. COREY GORDON:** Object to the form of

11:18:13 **20** the question.

11:18:14 **21** **A.** I think I was focusing on sort of this

11:18:16 **22** general type of causation question. Was there

11:18:22 **23** anything from Blackwell? I don't know.

11:18:25 **24** **Q.** Did you re --

11:18:25 **25** So you're sitting here today, you didn't

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11:18:27 **1** rely on any of the documents, internal documents from  
 11:18:30 **2** 3M.  
 11:18:31 **3** **A.** No. I mean I told you what I have, and...  
 11:18:34 **4** **Q.** Okay. Well this is what you have for the  
 11:18:43 **5** multidistrict litigation; correct?  
 11:18:45 **6** **A.** Yes.  
 11:18:45 **7** **Q.** Do you have another file or box of documents  
 11:18:47 **8** that you had for Walton?  
 11:18:51 **9** **A.** I don't have anything that I remember a  
 11:18:53 **10** separate file. I mean, my office looks like a mess  
 11:18:55 **11** right now, but --  
 11:18:56 **12** **Q.** You do understand the Walton case is still  
 11:18:58 **13** going on.  
 11:18:59 **14** **A.** I don't know anything about where it is.  
 11:19:02 **15** **Q.** Okay. So have you destroyed them?  
 11:19:04 **16** **A.** No.  
 11:19:05 **17** **Q.** Okay. So you believe you still have them,  
 11:19:07 **18** you just don't know where they are.  
 11:19:08 **19** **A.** Yeah.  
 11:19:09 **20** **Q.** Okay. So my understanding is that the  
 11:19:58 **21** expert report of Nurse Hughes was never provided to  
 11:20:01 **22** you; correct?  
 11:20:02 **23** **A.** That's true.  
 11:20:04 **24** **Q.** And did you review the expert report of Dr.  
 11:20:10 **25** Mont?

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11:20:47 **1** **Q.** -- in Exhibit 2, --  
 11:20:48 **2** **A.** Yeah.  
 11:20:49 **3** **Q.** -- then you most likely didn't receive it.  
 11:20:50 **4** **A.** Yeah, I don't -- I don't recall it, that's  
 11:20:52 **5** all.  
 11:20:52 **6** **Q.** You didn't receive the expert report of Dr.  
 11:20:54 **7** Keen; correct?  
 11:20:55 **8** **A.** That's true.  
 11:20:55 **9** **Q.** You did not receive the expert report of Dr.  
 11:20:59 **10** Kuehn; correct?  
 11:21:00 **11** **A.** Correct.  
 11:21:01 **12** **Q.** Or Kuehn [keen]. I say Kuehn [coon] just to  
 11:21:01 **13** distinguish between the two.  
 11:21:01 **14** **A.** Okay. Yeah.  
 11:21:02 **15** **Q.** You didn't receive the expert report of Dr.  
 11:21:04 **16** Settles; correct?  
 11:21:05 **17** **A.** Yes. True.  
 11:21:06 **18** **Q.** You did not receive the expert report of Dr.  
 11:21:08 **19** Abraham; correct?  
 11:21:08 **20** **A.** That's true.  
 11:21:10 **21** **Q.** Okay. Did you see any of the vid --  
 11:21:15 **22** You said you saw the videos of what Abraham  
 11:21:18 **23** prepared at Science Day; correct?  
 11:21:20 **24** **A.** Yeah.  
 11:21:21 **25** **Q.** Did you ever review those again?

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11:20:11 **1** MR. COREY GORDON: Objection, asked and  
 11:20:12 **2** answered.  
 11:20:14 **3** MR. ASSAAD: I asked him about the  
 11:20:15 **4** deposition.  
 11:20:15 **5** MR. COREY GORDON: The deposition?  
 11:20:16 **6** MR. ASSAAD: Yeah. I'm asking about the  
 11:20:18 **7** report this time.  
 11:20:18 **8** MR. COREY GORDON: You mean the transcript  
 11:20:19 **9** that didn't exist until about an hour ago?  
 11:20:21 **10** MR. ASSAAD: The expert report.  
 11:20:23 **11** MR. COREY GORDON: That was -- That was  
 11:20:24 **12** asked and answered.  
 11:20:26 **13** MR. ASSAAD: Well let me ask it again,  
 11:20:27 **14** because I don't -- I was going through this list and  
 11:20:29 **15** it's not on this list.  
 11:20:30 **16** MR. COREY GORDON: That's fine.  
 11:20:31 **17** MR. ASSAAD: It's not worth fighting about.  
 11:20:33 **18** MR. COREY GORDON: No, it isn't.  
 11:20:34 **19** **A.** No. I remember most reading -- most  
 11:20:36 **20** recently reading the -- I guess it's the deposition.  
 11:20:40 **21** **Q.** So you've never seen the expert report of  
 11:20:42 **22** Dr. Mont.  
 11:20:42 **23** **A.** I think... I'm not sure, okay?  
 11:20:45 **24** **Q.** Well if it's not listed in your --  
 11:20:47 **25** **A.** Yeah.

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11:21:22 **1** **A.** No.  
 11:21:22 **2** **Q.** Did you ever go online to review them?  
 11:21:24 **3** **A.** No.  
 11:21:25 **4** **Q.** Have you ever been to any of the websites  
 11:21:26 **5** prepared by Blackwell Burke to -- to do a -- a  
 11:21:31 **6** marketing campaign of the benefits of forced-air  
 11:21:34 **7** warming?  
 11:21:35 **8** MR. COREY GORDON: Object to the form of  
 11:21:36 **9** the question.  
 11:21:37 **10** **A.** I don't remember doing that, no.  
 11:21:39 **11** **Q.** Are you aware that Blackwell Burke is trying  
 11:21:40 **12** to influence the jury in Minnesota?  
 11:21:42 **13** MR. COREY GORDON: Object to the form of  
 11:21:43 **14** the question, move to strike.  
 11:21:45 **15** **A.** I'm not aware of that.  
 11:21:46 **16** **Q.** Okay. Are you aware of any law firm that's  
 11:21:48 **17** representing a manufacturer of a medical device that  
 11:21:53 **18** actually puts out a website and promotes the -- and  
 11:21:55 **19** markets the medical device on their own -- on the  
 11:21:58 **20** website?  
 11:21:58 **21** MR. COREY GORDON: Object to the form of  
 11:22:00 **22** the question, lack of foundation.  
 11:22:01 **23** **A.** So --  
 11:22:01 **24** **Q.** Are you aware of that, "yes" or "no"?  
 11:22:02 **25** **A.** So say it again. Just want to make sure I

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11:22:05 **1** understand.  
 11:22:05 **2** **Q.** Are you aware of a law firm that actually  
 11:22:06 **3** markets a medical device for a company?  
 11:22:08 **4** **A.** No, I'm not.  
 11:22:13 **5** **Q.** Okay. You're not a -- You're not familiar  
 11:22:15 **6** with how particles move in airflow; are you?  
 11:22:19 **7** **A.** No.  
 11:22:19 **8** **Q.** Okay. Have you been provided the expert  
 11:22:22 **9** report of Dr. Lampotang?  
 11:22:26 **10** **A.** No.  
 11:22:27 **11** **Q.** Do you know who Dr. Lampotang is?  
 11:22:28 **12** **A.** No, I don't.  
 11:22:29 **13** **Q.** Well do you know who Dr. Mont is?  
 11:22:31 **14** **A.** Dr. Mont, yes.  
 11:22:31 **15** **Q.** Okay.  
 11:22:32 **16** **A.** I met him at --  
 11:22:33 **17** **Q.** Science Day.  
 11:22:34 **18** **A.** -- Science Day.  
 11:22:34 **19** **Q.** Are you --  
 11:22:37 **20** Do you know any of the experts, like besides  
 11:22:39 **21** Science Day in this -- in this case?  
 11:22:41 **22** **A.** You mean like Holford?  
 11:22:43 **23** **Q.** Yes.  
 11:22:44 **24** **A.** Just met him once.  
 11:22:47 **25** **Q.** When?

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11:23:41 **1** **Q.** You haven't seen his expert report; correct?  
 11:23:44 **2** **A.** I have not.  
 11:23:44 **3** **Q.** And what about Ulatowski; have you seen his  
 11:23:48 **4** expert report?  
 11:23:48 **5** **A.** Who?  
 11:23:49 **6** **Q.** Ulatowski?  
 11:23:54 **7** **A.** No.  
 11:23:59 **8** **Q.** At the time of the meeting in Washington,  
 11:24:03 **9** D.C., what did you three discuss?  
 11:24:08 **10** **A.** Pretty much that Holford, who's a professor  
 11:24:11 **11** of statistics, was going to look at the statistics  
 11:24:15 **12** part of the McGovern study. And then I had a draft of  
 11:24:24 **13** my own report, I don't know that I brought it, but I  
 11:24:28 **14** said I would send that to the other two to give them  
 11:24:32 **15** sort of background on where my thinking was. And then  
 11:24:36 **16** Dr. Samet --  
 11:24:38 **17** **Q.** Dr. Samet or Dr. Borak?  
 11:24:40 **18** **A.** I'm sorry. I'm sorry. Dr. Borak.  
 11:24:45 **19** MS. ZIMMERMAN: Both are Jonathans; right?  
 11:24:47 **20** THE WITNESS: Yeah, that's right.  
 11:24:47 **21** **A.** So Dr. Borak was particularly interested in  
 11:24:51 **22** looking at the rivaroxaban issue, which we consider a  
 11:24:59 **23** confounding problem.  
 11:25:00 (Interruption by the reporter.)  
 11:25:01 **24** THE WITNESS: Confounding issue in the  
 11:25:01 **25** STIREWALT & ASSOCIATES

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11:22:48 **1** **A.** There was a meeting in Washington that  
 11:22:51 **2** counsel was there and Jonathan -- blanking on his last  
 11:22:59 **3** name now.  
 11:23:00 **4** **Q.** Borak?  
 11:23:01 **5** **A.** -- Borak was there, yeah.  
 11:23:01 **6** **Q.** So it was you --  
 11:23:02 **7** **A.** That's the first time that we met for a  
 11:23:04 **8** couple hours in Washington.  
 11:23:06 **9** **Q.** It was you, Dr. Borak and Dr. Holford?  
 11:23:10 **10** **A.** Yeah.  
 11:23:10 **11** **Q.** Any other experts?  
 11:23:11 **12** **A.** No.  
 11:23:25 **13** **Q.** Was that the first time you met Dr. Borak?  
 11:23:28 **14** **A.** It was.  
 11:23:28 **15** **Q.** Was it the first time you met Dr. Holford?  
 11:23:31 **16** **A.** It was.  
 11:23:31 **17** **Q.** Do you know Dr. Hannenberg?  
 11:23:34 **18** **A.** What's the name?  
 11:23:35 **19** **Q.** Do you know Dr. Hannenberg?  
 11:23:36 **20** **A.** No, I don't.  
 11:23:37 **21** **Q.** Have you looked at the expert report of Dr.  
 11:23:39 **22** Hannenberg?  
 11:23:39 **23** **A.** No.  
 11:23:40 **24** **Q.** What about Dr. Ho?  
 11:23:41 **25** **A.** No.

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11:25:01 **1** McGovern study.  
 11:25:03 **2** **Q.** Dr. Borak was to look at that?  
 11:25:04 **3** **A.** Yeah.  
 11:25:04 **4** **Q.** So you would defer to him for his analysis  
 11:25:06 **5** of that?  
 11:25:06 **6** **A.** Not necessarily, but I think he added  
 11:25:08 **7** something.  
 11:25:09 **8** **Q.** You don't --  
 11:25:09 **9** You wouldn't disagree with him; correct?  
 11:25:11 **10** **A.** That's true.  
 11:25:12 **11** **Q.** Okay. And you wouldn't disagree with Dr. --  
 11:25:15 **12** what Dr. Holford has in his report.  
 11:25:15 **13** **A.** Yes. I said that, yeah.  
 11:25:17 **14** **Q.** Okay. Have you actually looked at a Bair  
 11:25:25 **15** Hugger?  
 11:25:26 **16** **A.** I have actually.  
 11:25:28 **17** **Q.** When?  
 11:25:29 **18** **A.** Well, a couple times. One, Corey has one in  
 11:25:32 **19** his office, but --  
 11:25:34 **20** **Q.** In Minneapolis?  
 11:25:36 **21** **A.** Huh?  
 11:25:36 **22** **Q.** In Minneapolis?  
 11:25:37 **23** **A.** In Minneapolis, yeah.  
 11:25:39 **24** And then I asked a friend of mine, I don't  
 11:25:41 **25** know, maybe a year and a half or so ago, roughly,

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11:25:44 **1** who's a thoracic surgeon to walk me through the  
 11:25:48 **2** operating room to see the pre- and post-op and talk  
 11:25:51 **3** about the use of the Bair Hugger warmer which we use.  
 11:25:55 **4** **Q.** Do you think using the Bair Hugger as a  
 11:25:58 **5** office warmer using it off label?  
 11:26:01 **6** (Laughter.)  
 11:26:05 **7** **A.** I don't know about that.  
 11:26:06 **8** MR. COREY GORDON: You have no idea what  
 11:26:07 **9** goes on in my office.  
 11:26:09 **10** **Q.** Well have you -- have you -- I mean, have  
 11:26:09 **11** you checked -- have you done any swabs on Corey  
 11:26:12 **12** Gordon's skin to see if he has a higher bioburden than  
 11:26:15 **13** anyone else?  
 11:26:16 **14** **A.** I don't really have to answer that, do I?  
 11:26:17 **15** (Laughter.)  
 11:26:18 **16** **Q.** If you did, I really want you to answer it.  
 11:26:20 **17** (Laughter.)  
 11:26:24 **18** **A.** I like your sense of humor.  
 11:26:27 **19** MR. GOSS: Kind of like walking next to pig  
 11:26:30 **20** pen.  
 11:26:31 **21** (Laughter.)  
 11:26:31 **22** MR. COREY GORDON: I don't get no respect.  
 11:26:34 **23** **Q.** Did you --  
 11:26:35 **24** Did you look at the Bair Hugger device with  
 11:26:37 **25** a blanket attached?

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11:26:39 **1** **A.** Yeah.  
 11:26:40 **2** **Q.** Okay.  
 11:26:40 **3** **A.** Yeah.  
 11:26:42 **4** **Q.** And have you felt the air coming out of  
 11:26:44 **5** the -- underneath the blanket?  
 11:26:45 **6** **A.** Yeah, you can feel it, yeah. Getting -- The  
 11:26:47 **7** warmth, you mean.  
 11:26:48 **8** **Q.** Yeah.  
 11:26:48 **9** **A.** Yeah.  
 11:26:49 **10** **Q.** You agree that the temperature of the air  
 11:26:50 **11** coming out of the blanket is warmer than the body  
 11:26:53 **12** temperature.  
 11:26:55 **13** **A.** I think it is. I mean, it's set at, like,  
 11:26:58 **14** 42, 43, and --  
 11:26:59 **15** **Q.** I mean, because if the air coming out was  
 11:27:02 **16** below body temperature it would actually cool the  
 11:27:04 **17** patient; correct?  
 11:27:04 **18** **A.** It would cool the patient.  
 11:27:06 **19** **Q.** Okay. It would be ridiculous to think that  
 11:27:08 **20** the air coming out of the Bair Hugger is below body  
 11:27:09 **21** temperature; correct?  
 11:27:10 **22** **A.** Yes.  
 11:27:13 **23** These are getting tough now, these  
 11:27:14 **24** questions.  
 11:27:14 **25** **Q.** They are, aren't they?

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11:27:16 **1** Well there's some experts believe, on the  
 11:27:18 **2** defense side, that the air coming out of the Bair  
 11:27:20 **3** Hugger is less than 36 degrees.  
 11:27:21 **4** MR. COREY GORDON: Object to the form of  
 11:27:22 **5** the question, that mischaracterizes the evidence,  
 11:27:24 **6** misstates the evidence.  
 11:27:29 **7** **Q.** Because that would be ridiculous to think  
 11:27:30 **8** that you'd blow cold air on a patient. That would be  
 11:27:33 **9** unethical. Correct?  
 11:27:36 **10** **A.** These days what we know now, yes.  
 11:27:43 **11** **Q.** Okay. Now you didn't rely --  
 11:27:45 **12** Looking at Exhibit 5, in formulating your  
 11:27:47 **13** opinions in this case you did not rely on any of the  
 11:27:51 **14** internal documents provided to you during the Walton  
 11:27:53 **15** case; is that fair?  
 11:27:54 **16** **A.** That's true.  
 11:28:07 **17** **Q.** Okay. And in fact would it be fair to say  
 11:28:09 **18** that you probably haven't looked at those documents  
 11:28:12 **19** provided to you in Walton since 2015?  
 11:28:17 **20** **A.** That's probably true.  
 11:28:18 **21** **Q.** Okay. So if I asked you what documents are  
 11:28:20 **22** in that set, you would have no idea.  
 11:28:23 **23** **A.** That's probably right.  
 11:28:24 **24** **Q.** Okay. Do you believe that 3M gave you all  
 11:28:27 **25** the information necessary to formulate your opinions

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11:28:30 **1** in this case?  
 11:28:31 **2** MR. COREY GORDON: Object to the form of  
 11:28:31 **3** the question.  
 11:28:32 **4** **A.** I didn't rely on 3M to provide me all the  
 11:28:35 **5** information. I really did much as I can to find what  
 11:28:39 **6** was in the literature in addition to whatever was  
 11:28:41 **7** given.  
 11:28:42 **8** **Q.** Are you aware that 3M is doing a pilot study  
 11:28:45 **9** in the U.K.?  
 11:28:46 **10** **A.** I'd heard that in one of the depositions but  
 11:28:49 **11** I don't remember -- I don't know any details, nothing.  
 11:28:52 **12** **Q.** All right.  
 11:29:14 **13** MR. ASSAAD: Let's take a break for the  
 11:29:16 **14** court reporter.  
 11:29:17 **15** THE REPORTER: Thank you.  
 11:29:21 **16** (Recess taken from 11:29 to 11:43 a.m.)  
 11:43:22 **17** BY MR. ASSAAD:  
 11:43:25 **18** **Q.** I just want to go back with respect to  
 11:43:27 **19** Exhibit Number 5. That was attached to your report in  
 11:43:32 **20** Walton. You don't disagree with that; correct?  
 11:43:36 **21** **A.** I don't remember it actually, I'm sorry to  
 11:43:38 **22** say.  
 11:43:38 **23** **Q.** So you did a lot of work on Walton; correct?  
 11:43:41 **24** **A.** I did. I tried to look at that carefully --  
 11:43:41 **25** **Q.** Okay.

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11:43:42 **1 A.** -- and I just can't remember that.

11:43:45 **2 Q.** And in fact you -- you know, a lot of the

11:43:48 **3** work you did in Walton, except for, you know, stuff

11:43:51 **4** dealing directly with Walton with the medical records,

11:43:54 **5** you used in your report -- or you had that information

11:43:56 **6** that you used in your report in this case; correct?

11:43:58 **7 A.** I'm sure there are parts in both, yeah.

11:44:00 **8 Q.** Okay. I mean, you didn't start from scratch

11:44:06 **9** in this case.

11:44:07 **10 A.** No.

11:44:07 **11 Q.** Okay. Do you know how much you billed in

11:44:10 **12** Walton?

11:44:11 **13 A.** Total?

11:44:11 **14 Q.** Yes.

11:44:12 **15 A.** I don't remember. I don't -- Maybe somebody

11:44:15 **16** here has it, but.

11:44:18 **17 Q.** Well by the way, when did you -- when did

11:44:20 **18** you retire from Virginia Commonwealth University?

11:44:23 **19 A.** So, formally 2013.

11:44:27 **20 Q.** 2013. So you were retired by the time you

11:44:29 **21** started the Walton case; correct?

11:44:32 **22 A.** Well, you know, if you were to ask me why'd

11:44:34 **23** you do that, it was -- a lot of it was timing, you

11:44:37 **24** know, I've always been interested in taking care of

11:44:39 **25** these patients. I've never done really a lot

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11:44:42 **1** medical/legal.

11:44:43 **2 Q.** Well that really wasn't my question.

11:44:44 **3** My question was you were retired by the time

11:44:46 **4** you started the Walton case.

11:44:48 **5 A.** Yeah, that's right.

11:44:48 **6 Q.** Okay.

11:44:49 **7 A.** Right about that time, yeah.

11:44:50 **8 Q.** Okay. And so after you retired was -- was

11:44:51 **9** your -- was most of your income based on doing the

11:44:54 **10** Walton case?

11:44:54 **11 A.** No. I was fine without it, and the motive

11:44:59 **12** wasn't income, because I've never really done much of

11:45:02 **13** this. It was just curiosity and timing.

11:45:04 **14 Q.** So what were your sources of income after

11:45:07 **15** you retired?

11:45:07 **16 A.** Oh, I have a very good retirement from

11:45:10 **17** TIAA-CREF.

11:45:13 **18 Q.** I understand you have a retirement plan, but

11:45:15 **19** my question is: Besides your retirement plan, what

11:45:17 **20** other income did you -- do you have besides --

11:45:18 **21 A.** Besides retirement?

11:45:19 **22 Q.** Uh-huh.

11:45:20 **23 A.** Occasionally giving talks, sometimes --

11:45:25 **24** yeah, I guess Social Security, if that's what you're

11:45:29 **25** asking, as well.

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11:45:31 **1 Q.** Would you agree with me that most of your

11:45:33 **2** income that you've received since 2013 was -- was most

11:45:37 **3** likely from working on the Bair Hugger case?

11:45:41 **4 A.** No, I would disagree with that. I would

11:45:44 **5** guess somewhere a quarter to a third maybe in the last

11:45:52 **6** couple years --

11:45:52 **7 Q.** Okay.

11:45:52 **8 A.** -- of the total.

11:45:54 **9 Q.** Now I'm not talking about your pension

11:45:55 **10** income. I'm talking about non-pension income.

11:45:58 **11 A.** Oh, of non-pension income, yeah. This --

11:46:00 **12** This is a large portion of that.

11:46:02 **13 Q.** What percentage?

11:46:05 **14 A.** Oh, it's probably, you know, except for --

11:46:09 **15** It's huge. It's probably 80 percent or more, yeah.

11:46:13 **16 Q.** Okay. Can you give me roughly how much

11:46:17 **17** you -- you billed in Walton?

11:46:19 **18 A.** I'm guessing 90,000, something like that,

11:46:22 **19** but --

11:46:22 **20 Q.** Okay.

11:46:24 **21 A.** -- don't hold me to it. Go ask them.

11:46:25 **22 Q.** Around that, give or take 10,000?

11:46:27 **23 A.** Go ask them. Yeah.

11:46:28 **24 Q.** Do you have those invoices still?

11:46:30 **25 A.** I don't think so, but they do, I think, so

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11:46:30 **1** you --

11:46:32 **2 Q.** Greenberg Traurig?

11:46:33 **3 A.** Yeah. I would just -- If you need that.

11:46:35 **4 Q.** Did you bill any time for Johnson?

11:46:38 **5 A.** Probably, yeah.

11:46:39 **6 Q.** Do you know how much you billed for Johnson?

11:46:41 **7 A.** No. I think -- I lumped them together when

11:46:41 **8** I --

11:46:41 **9 Q.** Okay.

11:46:44 **10 A.** -- gave you that figure, so -- and I'm not

11:46:46 **11** trying to be cagey, I just don't remember.

11:46:49 **12 Q.** So basically since two thousand -- since you

11:46:53 **13** began in -- began working on this case --

11:46:53 **14 A.** Yeah.

11:46:54 **15 Q.** -- you approximate over \$300,000.

11:46:57 **16 A.** Yeah.

11:47:00 **17 Q.** And my understanding is you -- you billed

11:47:04 **18** over \$300,000 to do a -- a literature review and to

11:47:10 **19** formulate opinions off the literature.

11:47:12 **20** MR. COREY GORDON: Object to the form of

11:47:14 **21** the question.

11:47:14 **22 A.** Yeah, to -- Yeah. I mean basically I

11:47:17 **23** reviewed the literature, came up with opinions, did my

11:47:20 **24** best to cite all the articles, pro or con.

11:47:24 **25 Q.** Okay. So the answer to my question is

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11:47:26 **1** "correct."  
 11:47:27 **2** **A.** Yeah. Yeah.  
 11:47:29 **3** **Q.** Okay.  
 11:47:29 **4** **A.** Well I just made sure that we're -- we're on  
 11:47:31 **5** the same wavelength.  
 11:47:32 **6** **Q.** Okay. Did you --  
 11:47:44 **7** Did you keep an accurate -- accurate time of  
 11:47:49 **8** -- of what you did in this case?  
 11:47:51 **9** **A.** Yeah. I have the actual hours by month --  
 11:47:53 **10** **Q.** Okay.  
 11:47:54 **11** **A.** -- and by day.  
 11:47:55 **12** **Q.** Are they underestimated hours, or did you  
 11:47:58 **13** work on --  
 11:47:59 **14** **A.** Oh, no. I -- When I sit down, you know, if  
 11:48:01 **15** it's 12:15 I put 12:15. If I get up for a break at 1,  
 11:48:06 **16** I put 1.  
 11:48:07 **17** **Q.** Okay. And you also had an assistant that  
 11:48:28 **18** worked on this case; correct?  
 11:48:29 **19** **A.** Yes.  
 11:48:29 **20** **Q.** Ms. Briley?  
 11:48:30 **21** **A.** Yes.  
 11:48:30 **22** **Q.** And who is she?  
 11:48:32 **23** **A.** She's been my assistant for a long time, and  
 11:48:36 **24** I don't pay her a salary any more, so she helps me do  
 11:48:42 **25** the legal things that I need done, you know, getting

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11:50:09 **1** **Q.** So it seems that your first invoice on  
 11:50:14 **2** Exhibit Number 6 is dated December 7th, 2015; correct?  
 11:50:19 **3** **A.** So I have the right -- Oh, 6. I'm sorry. So  
 11:50:28 **4** where -- What page are you on?  
 11:50:29 **5** **Q.** Look on the first page of 6, it's December  
 11:50:32 **6** 7th, 2015. Or that's invoice for Ms. Briley.  
 11:50:34 **7** **A.** That's for -- That's for Barbara Briley,  
 11:50:36 **8** yeah.  
 11:50:37 **9** **Q.** Okay. Well if you look on I guess your  
 11:50:50 **10** first invoice, which is dated June 6, 2016 on Exhibit  
 11:50:55 **11** 6?  
 11:50:56 **12** **A.** Yeah. Let me go through it. I don't know  
 11:50:58 **13** where we are. Oh.  
 11:51:00 **14** How many pages in are you?  
 11:51:01 **15** **Q.** About six.  
 11:51:07 **16** **A.** Okay.  
 11:51:11 **17** **Q.** Okay. And that's your invoice is for each  
 11:51:14 **18** month from December 2015 to May 2016; correct?  
 11:51:19 **19** **A.** Should be, yeah.  
 11:51:19 **20** **Q.** Okay. So basically the first invoice  
 11:51:22 **21** provided to defendants in this -- or to the plaintiffs  
 11:51:25 **22** in this case that we have is for December of 2015;  
 11:51:29 **23** correct?  
 11:51:34 **24** **A.** Yeah. Looks like that's the first one  
 11:51:36 **25** there.

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11:48:45 **1** the manuscripts, writing various drafts of the paper,  
 11:48:50 **2** planning any kind of travel that I might have to do  
 11:48:53 **3** related to the case.  
 11:48:54 **4** **Q.** Is she a -- like a secretary?  
 11:48:56 **5** **A.** Yeah, sort of, but a -- more of a senior  
 11:48:59 **6** administrative type secretary, yeah.  
 11:49:00 **7** **Q.** Does she do any research for you?  
 11:49:02 **8** **A.** No.  
 11:49:03 **9** **Q.** Okay.  
 11:49:18 **10** (Discussion off the stenographic record.)  
 11:49:18 **11** (Wenzel Exhibits 6 - 7 marked for  
 11:49:18 **12** identification.)  
 11:49:18 **13** BY MR. ASSAAD:  
 11:49:39 **14** **Q.** What's been marked as Exhibit Number 6 and  
 11:49:42 **15** Number 7 are invoices provided to the plaintiff in  
 11:49:48 **16** this case from you. Does that look like your  
 11:49:50 **17** invoices?  
 11:49:51 **18** **A.** Yes.  
 11:49:52 **19** **Q.** Okay. And these are invoices that you  
 11:49:55 **20** provided to 3M in working on this case; correct? Or  
 11:50:02 **21** their attorneys?  
 11:50:02 **22** **A.** I provided them to the legal firm.  
 11:50:05 **23** **Q.** When I say "3M," I'm referring to 3M or  
 11:50:09 **24** their attorneys.  
 11:50:09 **25** **A.** Okay.

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11:51:36 **1** **Q.** But there are invoices that you've worked on  
 11:51:40 **2** a Bair Hugger case prior to December 2015.  
 11:51:42 **3** **A.** You're talking about the earlier cases?  
 11:51:44 **4** **Q.** Walton and Johnson.  
 11:51:46 **5** **A.** Yeah, that's right.  
 11:51:47 **6** **Q.** Okay. And based on my calculations, the  
 11:51:59 **7** invoices that were provided to us from you total about  
 11:52:08 **8** \$213,000. Does that sound about right?  
 11:52:12 **9** **A.** That's about right, I think. I don't know  
 11:52:14 **10** exactly, but it sounds right.  
 11:52:15 **11** **Q.** And for Ms. Briley it was \$6,860. That  
 11:52:19 **12** sound about right?  
 11:52:20 **13** **A.** I don't know. I didn't add up hers, but.  
 11:52:21 **14** **Q.** Okay. But you're not going to disagree with  
 11:52:23 **15** the invoices; correct?  
 11:52:24 **16** **A.** No.  
 11:52:24 **17** **Q.** Does she --  
 11:52:25 **18** Does she keep all the money that she charges  
 11:52:26 **19** for?  
 11:52:27 **20** **A.** Yeah. It all -- It goes directly to her.  
 11:52:27 **21** **Q.** Okay.  
 11:52:29 **22** **A.** I tried to keep that separate.  
 11:52:30 **23** **Q.** And this money goes directly to you, it  
 11:52:33 **24** doesn't go to Virginia Commonwealth University;  
 11:52:36 **25** correct?

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11:52:36 **1** **A.** That's true.  
 11:52:37 **2** **Q.** Okay. Do you have a company that it goes  
 11:52:39 **3** to, or it just goes to you personally?  
 11:52:42 **4** **A.** No.  
 11:52:42 **5** **Q.** Okay.  
 11:52:42 **6** **A.** I haven't become sophisticated like that.  
 11:52:44 **7** **Q.** And it seems like you spent -- the total  
 11:52:46 **8** number of hours spent is 380 hours -- 380.75 hours.  
 11:52:59 **9** That sound about right?  
 11:53:01 **10** **A.** Probably right.  
 11:53:02 **11** **Q.** Okay. And Ms. Briley spent about 196 hours;  
 11:53:06 **12** correct?  
 11:53:06 **13** **A.** Well I didn't add that up, so I'm assuming  
 11:53:07 **14** you're right.  
 11:53:08 **15** **Q.** Okay.  
 11:53:09 **16** **A.** If it matches this, you know.  
 11:53:10 **17** **Q.** Okay. So that's the total of, you know,  
 11:53:12 **18** over 500 hours between you and Ms. Briley.  
 11:53:16 **19** **A.** Umm-hmm.  
 11:53:16 **20** **Q.** Is that correct?  
 11:53:17 **21** **A.** Yeah.  
 11:53:19 **22** **Q.** Okay. And approximately how many hours did  
 11:53:19 **23** you spend on the Walton-Johnson case?  
 11:53:23 **24** **A.** I don't know. I mean, that's why I said the  
 11:53:25 **25** total might have been close to \$90,000, so.

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11:55:00 **1** correct?  
 11:55:01 **2** **A.** I'm not an expert in aerobiology.  
 11:55:03 **3** **Q.** You're not an expert in microbiology;  
 11:55:05 **4** correct?  
 11:55:06 **5** **A.** In what?  
 11:55:06 **6** **Q.** Microbiology?  
 11:55:07 **7** **A.** Well, I'd caution you there. I mean, I  
 11:55:10 **8** think microbiology is the basis of infectious  
 11:55:13 **9** diseases, and in that interface between micro and  
 11:55:17 **10** infectious disease I am an expert.  
 11:55:19 **11** **Q.** But you're not a microbiologist.  
 11:55:20 **12** **A.** I'm not a --  
 11:55:21 **13** I don't have a degree in microbiology.  
 11:55:23 **14** **Q.** Okay. You don't consider yourself an expert  
 11:55:29 **15** in orthopedics; correct?  
 11:55:32 **16** **A.** Only the interface, again, between  
 11:55:34 **17** orthopedics and infectious diseases. I'm not an  
 11:55:39 **18** orthopedic surgeon.  
 11:55:40 **19** **Q.** You don't consider yourself an expert in  
 11:55:42 **20** medical device design; correct?  
 11:55:43 **21** **A.** That's true.  
 11:55:44 **22** **Q.** You don't consider yourself an expert in  
 11:55:45 **23** medical device warnings; correct?  
 11:55:47 **24** **A.** Warnings, no.  
 11:55:48 **25** **Q.** You don't consider yourself an expert in

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11:53:28 **1** **Q.** And you charge how much per hour?  
 11:53:30 **2** **A.** Six hundred.  
 11:53:30 **3** **Q.** So 90,000 divided by 600 equals about 150  
 11:53:35 **4** hours. This sound about right, give or take?  
 11:53:37 **5** **A.** That sounds about right.  
 11:53:38 **6** **Q.** Okay. So so far between you and M --  
 11:53:40 **7** Did Ms. Briley work on the Walton case?  
 11:53:45 **8** **A.** I think she did, yes.  
 11:53:49 **9** **Q.** Do you know how many hours that she billed?  
 11:53:51 **10** **A.** I don't, actually. Don't remember that.  
 11:54:06 **11** **Q.** So between you and Ms. Briley, and not  
 11:54:09 **12** counting her time on Walton, the two of you spent over  
 11:54:12 **13** 720 hours on this case.  
 11:54:15 **14** **A.** Yeah. Sounds about right.  
 11:54:17 **15** **Q.** Okay. Did you ever recommend to 3M to --  
 11:54:22 **16** let's -- to do a study?  
 11:54:24 **17** **A.** No.  
 11:54:25 **18** **Q.** Okay. Why not?  
 11:54:29 **19** **A.** I haven't met with 3M.  
 11:54:30 **20** **Q.** Or their attorneys.  
 11:54:32 **21** **A.** Ask the attorneys to do a study?  
 11:54:35 **22** **Q.** I mean, hey, why don't you recommend -- you  
 11:54:36 **23** should recommend to 3M to do a study?  
 11:54:38 **24** **A.** I have never asked them that.  
 11:54:40 **25** **Q.** Okay. You're not an expert in aerobiology;

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11:55:50 **1** patient warming; correct?  
 11:55:50 **2** **A.** In what?  
 11:55:51 **3** **Q.** Patient warming.  
 11:55:52 **4** **A.** A expert in patient warming?  
 11:55:54 **5** **Q.** Yeah.  
 11:55:55 **6** **A.** Only as it is influenced in this case with  
 11:55:58 **7** the infectious disease part, but not --  
 11:56:00 **8** **Q.** And everything that you opine is going to  
 11:56:03 **9** be --  
 11:56:03 **10** **A.** -- warming.  
 11:56:04 **11** **Q.** -- is going to be based on a literature  
 11:56:05 **12** review and not your own personal --  
 11:56:10 **13** **A.** That's true.  
 11:56:10 **14** **Q.** -- directed research.  
 11:56:11 **15** **A.** Yes, that's --  
 11:56:11 **16** (Interruption by the reporter.)  
 11:56:11 **17** (Discussion off the stenographic  
 11:56:14 **18** record.)  
 11:56:14 **19** **Q.** Correct?  
 11:56:14 **20** **A.** Yes.  
 11:56:15 **21** **Q.** Okay. You're not an expert in operating  
 11:56:17 **22** room design; correct?  
 11:56:18 **23** **A.** Correct.  
 11:56:19 **24** **Q.** Have you read any of the ASHRAE articles or  
 11:56:24 **25** chapters regarding operating room design?

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11:56:26 **1** **A.** Don't think so.

11:56:28 **2** **Q.** Are you aware that it is estimated between

11:56:34 **3** one million to 900 million skin squames are shed

11:56:40 **4** during a two- to four-hour surgery?

11:56:42 **5** **MR. COREY GORDON:** Object to the form of

11:56:44 **6** the question.

11:56:44 **7** **A.** So I didn't go to the primary literature but

11:56:47 **8** I've seen that in a couple depositions.

11:56:49 **9** **Q.** Do you disagree with that?

11:56:50 **10** **A.** No reason to disagree or agree.

11:56:52 **11** **Q.** Okay. You have no experience in

11:57:02 **12** operating-room airflow; correct?

11:57:05 **13** **A.** Any experience, no.

11:57:06 **14** **Q.** Okay. You don't consider you're an expert

11:57:07 **15** in operating airflow?

11:57:09 **16** **A.** That's true.

11:57:10 **17** **Q.** I think I've asked you this before, but

11:57:11 **18** you're not an expert in particle flow; correct?

11:57:13 **19** **A.** In particle flow, no. I'm not.

11:57:16 **20** **Q.** Do you agree with me that Dr. Elghobashi is

11:57:18 **21** an expert in particle flow and turbulent air?

11:57:21 **22** **MR. COREY GORDON:** Object to the form of

11:57:22 **23** the question, lack of foundation.

11:57:22 **24** **A.** I have no idea of his expertise.

11:57:24 **25** **Q.** Well you've rea -- you've seen his report;

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11:57:26 **1** correct?

11:57:26 **2** **A.** Yeah. I didn't understand most of it.

11:57:26 **3** **Q.** Did you --

11:57:27 **4** And you didn't have an opportunity to

11:57:29 **5** compare our expert's report to defense expert's

11:57:31 **6** report; did you?

11:57:32 **7** **A.** No. Only what I saw on Science Day,

11:57:35 **8** basically.

11:57:36 **9** **Q.** Okay. And you're not an expert in turbulent

11:57:44 **10** flow; correct?

11:57:45 **11** **A.** In turbulent flow? No, I'm not an expert in

11:57:48 **12** turbulent flow.

11:57:49 **13** **Q.** Okay. Have you read the Complaint in this

11:58:01 **14** case?

11:58:06 **15** **A.** I think I may have read it at the time of

11:58:09 **16** Walton, and -- I remember seeing that.

11:58:12 **17** **Q.** Okay.

11:58:13 **18** **A.** More recently I don't think I looked at

11:58:14 **19** anything.

11:58:15 **20** **Q.** What is your understanding of plaintiffs'

11:58:17 **21** claims in this case with respect to the mechanism of

11:58:20 **22** injury of a Bair Hugger causing a -- an infection?

11:58:27 **23** **A.** My understanding is that the plaintiffs are

11:58:30 **24** saying that there is heat generated from the Bair

11:58:36 **25** Hugger, and it creates currents, particularly --

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11:58:41 **1** including, at least, a downflow current towards the

11:58:44 **2** floor, whipping up some kind of particles into the air

11:58:51 **3** near the operative site, and therefore they think that

11:58:56 **4** the Bair Hugger, having done that, relates to

11:59:01 **5** infections. That's my understanding.

11:59:03 **6** **Q.** You don't disagree that the Bair Hugger

11:59:04 **7** generates heat; correct?

11:59:06 **8** **A.** It does generate some heat.

11:59:08 **9** **Q.** Well do you know how much heat?

11:59:10 **10** **A.** I don't.

11:59:10 **11** **Q.** Okay. Well you used the term "some." Do

11:59:13 **12** you know -- You're just -- you're not --

11:59:15 **13** You're not quantifying it; correct?

11:59:16 **14** **A.** I'm not.

11:59:17 **15** **Q.** Okay. You do agree that the Bair Hugger,

11:59:20 **16** the holes are facing down; correct?

11:59:22 **17** **A.** Yes.

11:59:22 **18** **Q.** Onto the patient?

11:59:23 **19** **A.** Yes.

11:59:24 **20** **Q.** In an orthopedic surgery.

11:59:25 **21** **A.** Yes.

11:59:25 **22** **Q.** Okay. So you do agree that it creates

11:59:27 **23** current, air currents.

11:59:29 **24** **A.** I think it does.

11:59:30 **25** **Q.** Okay. And you agree that --

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11:59:37 **1** Do you know what the first law of

11:59:38 **2** thermodynamics is?

11:59:39 **3** **A.** No. I know you like to ask that question,

11:59:42 **4** but I don't know it.

11:59:44 **5** **Q.** How do you know I like to ask that question?

11:59:46 **6** **A.** Somewhere in -- you were deposing somebody

11:59:48 **7** and it was one of your earlier questions.

11:59:50 **8** **Q.** Okay. Do you agree that hot air is less

11:59:54 **9** dense than cold air? If you know.

11:59:57 **10** **A.** Yes, I think. Less dense, yes.

12:00:01 **11** **Q.** You've seen a hot air balloon; correct?

12:00:04 **12** **A.** Yes.

12:00:04 **13** **Q.** Okay. And hot air balloons actually rise;

12:00:05 **14** correct?

12:00:06 **15** **A.** Yeah, they do.

12:00:07 **16** **Q.** Okay. You're not going to disagree with the

12:00:08 **17** laws of thermodynamics; are you?

12:00:10 **18** **A.** I have no idea what the law of

12:00:11 **19** thermodynamics is.

12:00:12 **20** **Q.** Okay. Okay. You're going to defer to the

12:00:13 **21** engineers in this case.

12:00:14 **22** **A.** To you.

12:00:15 **23** **Q.** To me? You'd defer --

12:00:15 **24** **A.** Yeah.

12:00:16 **25** **Q.** -- to me as well. Okay.

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12:00:18 **1** Unfortunately, I can't testify.  
 12:00:22 **2** (Laughter.)  
 12:00:22 **3** **Q.** Which is a good thing, because I think Corey  
 12:00:24 **4** would love to take my deposition.  
 12:00:26 **5** And you agree with me that skin squames have  
 12:00:38 **6** a mass; correct?  
 12:00:41 **7** **A.** "Have a mass"? You mean they're not just  
 12:00:44 **8** energy, is that what you're asking?  
 12:00:45 **9** **Q.** Yes.  
 12:00:45 **10** **A.** Yes.  
 12:00:46 **11** **Q.** Okay. And you agree with me that gravity  
 12:00:48 **12** exists in an operating room; correct?  
 12:00:49 **13** **A.** It exists everywhere.  
 12:00:50 **14** **Q.** Okay. Now just so I understand your  
 12:01:06 **15** opinion, assuming that the plaintiffs' engineering  
 12:01:12 **16** theory is correct that the hot air causes contaminated  
 12:01:20 **17** air from underneath the operating table to rise to  
 12:01:23 **18** above the operating room surgical table, is it correct  
 12:01:27 **19** that your opinion is going to be that since you  
 12:01:30 **20** believe that most of the surgical-site infections are  
 12:01:35 **21** caused by the patient's flora, that the effect of the  
 12:01:39 **22** Bair Hugger is irrelevant?  
 12:01:40 **23** MR. COREY GORDON: Object to the form of  
 12:01:42 **24** the question, incomplete hypothetical.  
 12:01:46 **25** **A.** I've told you separately I think most  
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12:01:49 **1** infections come from the patient flora, no question.  
 12:01:53 **2** Now you're asking me a hypothetical assuming that  
 12:01:56 **3** everything that the plaintiffs say is correct, would  
 12:02:00 **4** that have an influence. And it might, but that's an  
 12:02:05 **5** assumption.  
 12:02:06 **6** **Q.** So -- So if the plaintiffs are correct that  
 12:02:10 **7** the Bair Hugger causes contaminants from underneath  
 12:02:12 **8** the operating room floor to actually go into the --  
 12:02:16 **9** above and into the surgical site, that may have an  
 12:02:19 **10** effect on your opinion?  
 12:02:21 **11** **A.** If everything that you say was validated,  
 12:02:24 **12** and I don't -- I don't think we're there yet, in this  
 12:02:27 **13** hypothetical situation, it might contribute. We have  
 12:02:33 **14** no data, I think, to really convince people that the  
 12:02:36 **15** Bair Hugger actually leads to infections.  
 12:02:38 **16** **Q.** Okay. How do we get there?  
 12:02:41 **17** **A.** How do we get the data?  
 12:02:42 **18** **Q.** Yeah.  
 12:02:43 **19** **A.** Well what I've tried to do is do the  
 12:02:46 **20** following.  
 12:02:47 **21** **Q.** Well I understand what you did. You said  
 12:02:49 **22** we're not there yet. That was your -- That was your  
 12:02:52 **23** answer. So how do we -- What would you do today to  
 12:02:55 **24** determine the answer to that question? Not looking at  
 12:02:57 **25** literature in the past, but what would you do today?  
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12:03:00 **1** **A.** So if -- if there, you know, was a study  
 12:03:03 **2** that was being planned, one of the things I would do  
 12:03:07 **3** is link the -- what was found in the air,  
 12:03:13 **4** microbiologically, with what was found somewhere else,  
 12:03:17 **5** not on the patient flora, if you could do that.  
 12:03:20 **6** Because you're positing that things come up from the  
 12:03:23 **7** floor. And link what's on the floor, link what's in  
 12:03:27 **8** the air and link what's in the patient's wound, and  
 12:03:31 **9** show me it's the same -- pick a organism, Staph  
 12:03:38 **10** aureus, with the same fingerprint.  
 12:03:40 **11** **Q.** Okay. And how many patients do you think  
 12:03:41 **12** you would need to do that study?  
 12:03:43 **13** **A.** I don't know.  
 12:03:44 **14** **Q.** Like -- Like 50, a thousand, 10,000?  
 12:03:48 **15** MR. COREY GORDON: Object to the form of  
 12:03:50 **16** the question, lack of foundation.  
 12:03:50 **17** **A.** Well --  
 12:03:51 **18** **Q.** And I'm talking about with respect to a  
 12:03:53 **19** total hip or total knee arthroplasty.  
 12:03:55 **20** **A.** You'd need a lot of patients to show -- to  
 12:03:58 **21** show that. And you have to do a multi-centered study,  
 12:04:02 **22** and we'll get a statistician to look at what you'd  
 12:04:07 **23** expect. But I, off the cuff, wouldn't come up with an  
 12:04:11 **24** answer.  
 12:04:12 **25** **Q.** So you'd want to do microbiological sampling  
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12:04:15 **1** of, like, what's underneath the operating room table;  
 12:04:17 **2** correct?  
 12:04:17 **3** **A.** Yeah, because you said that's where it  
 12:04:19 **4** starts.  
 12:04:19 **5** **Q.** And you want to do microbio --  
 12:04:21 **6** microbiological sampling of the patient's flora in the  
 12:04:25 **7** wound.  
 12:04:25 **8** **A.** Right.  
 12:04:27 **9** **Q.** Okay. And I think you said one other  
 12:04:28 **10** microbiologic sample.  
 12:04:29 **11** **A.** It would have to be in the air --  
 12:04:29 **12** **Q.** Okay.  
 12:04:30 **13** **A.** -- because you said it comes up in the air,  
 12:04:32 **14** in your hypothetical.  
 12:04:32 **15** **Q.** So what's in the air before you turn the  
 12:04:35 **16** Bair Hugger on; correct?  
 12:04:36 **17** **A.** Before and during.  
 12:04:37 **18** **Q.** Okay, during.  
 12:04:38 **19** And then you want to also determine which  
 12:04:41 **20** patients obtained infections; correct?  
 12:04:43 **21** **A.** Right. Right.  
 12:04:44 **22** **Q.** And so for total hip and total knee you  
 12:04:46 **23** might need 10,000 patients.  
 12:04:47 **24** **A.** A lot of patients.  
 12:04:49 **25** **Q.** Okay. And so that study would be very,  
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12:04:52 **1** very, very expensive; correct?

12:04:53 **2** **A.** Ten thousand patient would be expensive.

12:04:55 **3** **Q.** Okay. And to do all that microbiological

12:04:58 **4** sampling would be expensive too.

12:04:59 **5** **A.** Right. Truth is costly sometimes.

12:05:01 **6** **Q.** Okay. And -- And you agree with me, based

12:05:05 **7** on your experience of doing research, that probably

12:05:09 **8** the only person that would ever fund a study such like

12:05:12 **9** that or -- would be the manufacturer of the device.

12:05:14 **10** MR. COREY GORDON: Object to the form of

12:05:16 **11** the question.

12:05:16 **12** **A.** I'm not sure if NI -- it'd take awhile to

12:05:20 **13** get NIH involved in that, but at least I'd give it a

12:05:23 **14** try if I were really going to go into that.

12:05:26 **15** **Q.** But the NIH, you know --

12:05:26 **16** **A.** But typically they don't --

12:05:27 **17** **Q.** -- funds very little studies.

12:05:28 **18** **A.** Typically they don't get into devices and --

12:05:32 **19** But the mechanism might be important as a

12:05:35 **20** general surgery issue. Forget just hips and, you

12:05:39 **21** know, prostheses.

12:05:41 **22** So if you could expand it, I wouldn't be

12:05:43 **23** surprised that, you know, a well written, general

12:05:48 **24** surgery person could maybe convince them to do -- to

12:05:52 **25** look at it.

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12:05:52 **1** **Q.** When you say "the mechanism," what do you

12:05:54 **2** mean by "the mechanism"?

12:05:57 **3** **A.** In other words, if the question is what's

12:05:59 **4** the pathogenesis of surgical-site infections, that's

12:06:03 **5** what I would be asking in the front end. And if you

12:06:06 **6** said it's not just that we're going to look at hips

12:06:09 **7** and knees, because the numbers might be very high, but

12:06:12 **8** let's look at some general surgery patients.

12:06:15 **9** The reason, for example, that Kurz and

12:06:18 **10** Melling looked at the patients they did, particularly

12:06:20 **11** Kurz, because of the high infection rate with

12:06:23 **12** colorectal surgery.

12:06:25 **13** **Q.** But colorectal is a -- is a -- is considered

12:06:26 **14** a dirty surgery; correct?

12:06:28 **15** **A.** It is. It's clean contaminated.

12:06:31 **16** **Q.** Clea -- Okay. Well there's clean, there's

12:06:33 **17** clean contaminated, and then there is --

12:06:35 **18** What's the third one?

12:06:36 **19** **A.** Contaminated where you've cut across a tube,

12:06:38 **20** essentially. So in other words, gallbladder duct,

12:06:44 **21** something like that.

12:06:45 **22** **Q.** So cutting into the -- the colorectal area

12:06:49 **23** is not considered contaminated?

12:06:50 **24** **A.** I think it depends on how much spillage

12:06:52 **25** there is.

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12:06:53 **1** **Q.** Okay.

12:06:53 **2** **A.** And then contaminated obviously if there's

12:06:55 **3** already --

12:06:56 **4** **Q.** Okay.

12:06:57 **5** **A.** -- an infection.

12:07:00 **6** **Q.** So you want to look at the mechanism of

12:07:00 **7** injury with respec -- look at the mechanisms across

12:07:04 **8** the board; correct? Is that what I'm understanding?

12:07:07 **9** **A.** No. If you were going to design a study,

12:07:10 **10** you know, my label would be what's the pathogenesis of

12:07:13 **11** surgical-site infections. And I think, you know, so

12:07:16 **12** far what I've learned is that it's the patient's

12:07:20 **13** microbiome that's the source.

12:07:21 **14** Now what I think you're getting at is a very

12:07:24 **15** interesting question. What's -- How does it get from

12:07:26 **16** the source to the wound? And you're positing, in your

12:07:31 **17** hypothetical, that maybe it's not the patient's

12:07:35 **18** microbiome but it's something on the base of the floor

12:07:39 **19** being wafted up. So I would like to try to put that

12:07:43 **20** to rest one way or another.

12:07:47 **21** That make sense? I'm trying to...

12:07:50 **22** **Q.** You agree that implant surgeries are more

12:07:52 **23** susceptible to infection than non-implant surgeries.

12:07:55 **24** **A.** Well let's pause for a second. I'm not sure

12:07:58 **25** the pathogenesis of the initiation is different, but

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12:08:01 **1** once the infection is present, once you have the

12:08:06 **2** biofilm, then it's -- it's much harder to cure and

12:08:10 **3** almost always you have to then replace the -- the

12:08:13 **4** joint because the foreign body is going to hold the

12:08:16 **5** organisms there.

12:08:18 **6** But if you said what's the initiation phase

12:08:21 **7** I think you still start with the flora, patient flora.

12:08:25 **8** And I think the patient's flora is there at the time

12:08:27 **9** of surgery, at the time of the incision. That's my

12:08:31 **10** current thinking.

12:08:34 **11** **Q.** Okay.

12:08:35 **12** **A.** And then once the infection -- because I

12:08:37 **13** know that you've discussed with other people, you

12:08:40 **14** know, biofilm. That's a different story. Once you

12:08:43 **15** have that, the therapy and then the -- the late

12:08:48 **16** pathogenesis, there's no question, if that's what

12:08:51 **17** you're asking, is different in a device-related

12:08:56 **18** infection than a non-device-related infection.

12:09:00 **19** **Q.** So is it your opinion that the infection

12:09:03 **20** dose for a implant infection is the same for a

12:09:05 **21** superficial wound infection? Is the infection dose --

12:09:12 **22** **A.** You know we know so little about infectious

12:09:15 **23** dose, but I think the initiation might be -- I don't

12:09:20 **24** know. I don't know how to answer that question for

12:09:23 **25** sure.

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12:09:23 **1 Q.** Well if you don't know you can say you don't  
 12:09:25 **2** know.  
 12:09:25 **3 A.** Yeah. So I don't know, --  
 12:09:25 **4 Q.** All right.  
 12:09:26 **5 A.** -- there aren't...  
 12:09:27 **6 Q.** That's fine.  
 12:09:28 **7 A.** But I thought we were talking hypotheticals,  
 12:09:30 **8** and that's --  
 12:09:31 **9 Q.** Well you mentioned -- you discussed the  
 12:09:34 **10** rabbit studies and the mice studies; correct?  
 12:09:35 **11 A.** Yeah. Right.  
 12:09:36 **12 Q.** And many of those studies, and we can go  
 12:09:39 **13** through them if you want, but let's try to get here --  
 12:09:41 **14 A.** Yeah. No. That's --  
 12:09:43 **15 Q.** -- out of here by six o'clock.  
 12:09:45 **16 A.** Yeah. No. That's fine. Yeah.  
 12:09:46 **17 Q.** Most of those studies indicated that when  
 12:09:47 **18** there is an implant the infectious dose is much less  
 12:09:49 **19** than when there's no implant.  
 12:09:51 **20 A.** I think in general that's true.  
 12:09:51 **21 Q.** Okay.  
 12:09:52 **22 A.** There's probably less based on the animal  
 12:09:54 **23** studies, yeah.  
 12:09:56 **24 Q.** And in fact if you looked at the rabbit  
 12:09:57 **25** study, and let's go to --

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12:11:07 **1 A.** I didn't count them all, but they're -- you  
 12:11:09 **2** know, they're -- they're numerous, yeah.  
 12:11:12 **3 Q.** Okay.  
 12:11:13 **4 A.** This was the intravenous study. Is that the  
 12:11:19 **5** one you're referring to?  
 12:11:20 **6 Q.** Yeah. Hold on one second, just pulling it  
 12:11:22 **7** up so that we're on the same page.  
 12:11:35 **8** They had four groups; correct?  
 12:11:38 **9 A.** I don't remember exactly, but.  
 12:11:40 **10 Q.** You have route of infection number IV here  
 12:11:42 **11** at -- near the top; correct?  
 12:11:43 **12 A.** Okay. All right.  
 12:11:44 **13 Q.** And --  
 12:11:45 **14 A.** Oh, I see what you're saying. These four,  
 12:11:47 **15** yeah.  
 12:11:48 **16 Q.** And --  
 12:11:52 **17** (Discussion off the stenographic record.)  
 12:11:52 **18** MR. COREY GORDON: Is that roman numeral,  
 12:11:52 **19** or is that intravenous?  
 12:11:52 **20** THE WITNESS: Oh, that's -- No, it's "I-V,"  
 12:11:52 **21** intravenous.  
 12:11:52 **22** MR. ASSAAD: Oh, it's "I-V"? Okay.  
 12:11:52 **23** THE WITNESS: Yeah. That's why I thought  
 12:12:07 **24** you meant the studies here.  
 12:12:07 **25** BY MR. ASSAAD:

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12:10:14 **1 A.** I'm thinking you're probably looking for the  
 12:10:18 **2** end of the...  
 12:10:19 **3 Q.** Yeah, you're right.  
 12:10:23 **4** (Interruption by the reporter.)  
 12:10:23 **5 A.** The end of the report.  
 12:10:25 **6 Q.** Okay. Page 77.  
 12:10:25 **7 A.** Yeah.  
 12:10:26 **8 Q.** Okay. So --  
 12:10:29 **9** And you've looked at these studies; correct?  
 12:10:31 **10 A.** I have. That's where I made the table from,  
 12:10:33 **11** and...  
 12:10:34 **12 Q.** Okay.  
 12:10:34 **13 A.** And this doesn't -- I don't mean to imply  
 12:10:36 **14** it's a comprehensive look, but it's a sample.  
 12:10:40 **15** And what I come away with is the infecting  
 12:10:43 **16** dose varies by which animal and which mechanism that  
 12:10:47 **17** you're infecting the animal.  
 12:10:49 **18 Q.** But in the Southwood study of 1985, when a  
 12:10:53 **19** medullary inoculation with prosthesis, which means  
 12:10:56 **20** they actually kept the prosthesis in; correct?  
 12:10:59 **21 A.** Right.  
 12:10:59 **22 Q.** Okay. The other ones they did not keep the  
 12:11:01 **23** prosthesis in; correct? The other three --  
 12:11:04 **24** They had four different routes of infection;  
 12:11:06 **25** correct?

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12:12:07 **1 Q.** The reason why I ask is they also have  
 12:12:09 **2** groups I, II, III, IV in Roman numerals.  
 12:12:12 **3** THE WITNESS: I'm glad you said something  
 12:12:14 **4** there [to counsel].  
 12:12:14 **5** (Discussion off the stenographic record.)  
 12:12:14 **6** (Wenzel Exhibit 8 marked for  
 12:12:14 **7** identification.)  
 12:12:14 **8** BY MR. ASSAAD:  
 12:12:42 **9 Q.** Doctor, Exhibit Number 8 is the -- is the  
 12:12:45 **10** Southwood article referred on page 77 of your report  
 12:12:48 **11** of Exhibit 1; correct?  
 12:12:49 **12 A.** Yes.  
 12:12:49 **13 Q.** Okay. Let's look at --  
 12:12:53 **14** Let's explain to the ladies and gentlemen of  
 12:12:55 **15** the jury what ID<sub>50</sub> means.  
 12:12:58 **16 A.** It's the dose of organism that will infect  
 12:13:03 **17** 50 percent of the subjects --  
 12:13:07 **18 Q.** Okay.  
 12:13:08 **19 A.** -- as opposed to the dose, you know, which  
 12:13:11 **20** required to infect 10 percent or a hundred percent.  
 12:13:14 **21 Q.** And a dose would be considered a CFU?  
 12:13:16 **22 A.** In this case, yes.  
 12:13:17 **23 Q.** Okay. So in this case it would be a CFU;  
 12:13:20 **24** correct?  
 12:13:20 **25 A.** Yes.

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12:13:21 **1 Q.** Let's turn to Figure 2 on page 230 of  
 12:13:23 **2** Exhibit 8. It's the second page.  
 12:13:26 **3 A.** Table 2, or Figure 2?  
 12:13:28 **4 Q.** Or Figure 2. I'm sorry.  
 12:13:30 **5** And they talk about four different types of  
 12:13:33 **6** ways they infected the rabbit; correct?  
 12:13:37 **7 A.** Yeah. I'm trying to remember the study.  
 12:13:39 **8** Yeah.  
 12:13:39 **9 Q.** One was --  
 12:13:40 **10** The first one was medullary, they infected  
 12:13:42 **11** the actual implant; correct?  
 12:13:44 **12 A.** Yes.  
 12:13:45 **13 Q.** Then they did medullary but they took out  
 12:13:46 **14** the prosthesis; correct?  
 12:13:48 **15 A.** Yes.  
 12:13:49 **16 Q.** And then they did a delayed intravenous and  
 12:13:51 **17** an intravenous; correct?  
 12:13:52 **18 A.** Yeah.  
 12:13:53 **19 Q.** Okay. And let's look down at the  
 12:13:56 **20** calculations they did, and it says: "In Group I  
 12:13:59 **21** (medullary peroperative inoculation) ID<sub>50</sub> equals 1 .3  
 12:14:06 **22** times 10 to the 1.114"; correct?  
 12:14:10 **23 A.** Where are we?  
 12:14:11 **24 Q.** The description of Figure 2. The small  
 12:14:14 **25** writing right below the figures.

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12:15:38 **1 A.** Yeah.  
 12:15:38 **2 Q.** Okay. Which are very large numbers;  
 12:15:42 **3** correct?  
 12:15:42 **4 A.** They're big numbers. Bigger than 10 to the  
 12:15:45 **5** --  
 12:15:45 **6 Q.** So you agree with me then when -- at least  
 12:15:47 **7** in the rabbit case, that when -- the infective dose  
 12:15:53 **8** when a bacteria gets on the implant is much lower than  
 12:15:58 **9** when it's not on the implant.  
 12:16:00 **10 A.** That's what the study showed.  
 12:16:02 **11 Q.** And do you disagree with that study?  
 12:16:03 **12 A.** No.  
 12:16:04 **13 Q.** Okay. And in fact you agree with me that  
 12:16:09 **14** one skin squame can carry, you know, multiple CFUs.  
 12:16:12 **15 A.** I think I've read that, that they can car --  
 12:16:15 **16** can carry, sometimes, several, up to three or four or  
 12:16:19 **17** something.  
 12:16:20 **18 Q.** Even more.  
 12:16:21 **19** MR. COREY GORDON: Object to the form of  
 12:16:22 **20** the question.  
 12:16:23 **21 Q.** I mean, you agree with me that there is 10  
 12:16:24 **22** times more bacteria on our skin than actual skin  
 12:16:27 **23** cells.  
 12:16:28 **24 A.** Than actual what?  
 12:16:29 **25 Q.** Than our skin cells.

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12:14:16 **1 A.** Oh, I see. Okay. The range of inocula?  
 12:14:20 **2** Yeah. (Witness reviewing exhibit.)  
 12:14:21 **3 Q.** Okay. That means how much bacteria --  
 12:14:23 **4** what's the effective dose for 50 percent when you --  
 12:14:29 **5** you add back -- add CFUs to the implant; correct?  
 12:14:33 **6 A.** Yeah.  
 12:14:34 **7 Q.** Okay. Have you calculated what 1.3 times 10  
 12:14:37 **8** to the 1.114 is?  
 12:14:38 **9 A.** No. It's low. It's a small number.  
 12:14:41 **10 Q.** Uh-huh. I'm going to calculate it for you,  
 12:14:44 **11** let me see if you agree with me.  
 12:14:46 **12 A.** It's probably 15 or 20.  
 12:14:48 **13 Q.** 1.3 times 10 to the 1.114. [Calculating.]  
 12:15:01 **14** About 17; correct?  
 12:15:02 **15 A.** I was pretty close.  
 12:15:03 **16 Q.** Okay. Or, I'm sorry, 1.7. Is it 1.7? I'm  
 12:15:08 **17** sorry. Let me calculate it again. [Calculating.]  
 12:15:16 **18** It's below 20; correct? Whatever it is, it  
 12:15:25 **19** is; correct?  
 12:15:26 **20 A.** It's low.  
 12:15:26 **21 Q.** That's a very low number; correct?  
 12:15:30 **22 A.** Yeah.  
 12:15:30 **23 Q.** Okay. Compared to the in -- the infection  
 12:15:32 **24** dose for groups II, III and IV, which are 10 to the 5;  
 12:15:37 **25** correct?

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12:16:30 **1 A.** Well it's not just skin, the -- what I cited  
 12:16:33 **2** was the total flora on the body.  
 12:16:35 **3 Q.** I understand. But the total flora, there's  
 12:16:37 **4** 10 times more flora on our skin than actual skin  
 12:16:41 **5** cells.  
 12:16:41 **6 A.** Yeah.  
 12:16:41 **7 Q.** Okay. And the flora is bacteria; correct?  
 12:16:45 **8 A.** When you say flora, it's bacteria, it's  
 12:16:48 **9** fungus --  
 12:16:48 **10 Q.** Okay.  
 12:16:49 **11 A.** -- some parts of the body it's virus.  
 12:16:50 **12 Q.** Okay. So in fact you could say that for  
 12:16:54 **13** every skin cell there's -- there's 10 flora, on  
 12:16:59 **14** average.  
 12:17:02 **15 A.** So for every skin cell there are 10 -- Yeah.  
 12:17:07 **16 Q.** Okay.  
 12:17:07 **17 A.** There might be more bacteria, yeah.  
 12:17:09 **18 Q.** So in fact a skin squame could carry more  
 12:17:11 **19** than three or four bacteria.  
 12:17:14 **20 A.** Okay. I haven't looked at that recently,  
 12:17:16 **21** but yeah.  
 12:17:17 **22 Q.** But the math -- the math makes sense;  
 12:17:19 **23** correct?  
 12:17:19 **24 A.** Okay.  
 12:17:19 **25 Q.** Do you agree?

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12:17:20 **1** **A.** I think I've seen up to --

12:17:22 **2** **Q.** Okay.

12:17:23 **3** **A.** -- four or five.

12:17:24 **4** **Q.** Okay. And some might have a cluster on it

12:17:26 **5** that might have 20, 30.

12:17:28 **6** **A.** Yeah, I don't know that.

12:17:29 **7** **Q.** Okay. I mean, bacteria go into clusters;

12:17:33 **8** correct?

12:17:33 **9** **A.** They do clump.

12:17:35 **10** **Q.** Okay. And they could clump as few as 3 and

12:17:36 **11** as many as hundreds.

12:17:38 **12** **A.** Yeah, I don't know about hundreds. I just

12:17:40 **13** -- I just can't say I know that, but maybe.

12:17:44 **14** **Q.** More than ten.

12:17:45 **15** **A.** Yeah.

12:17:45 **16** **Q.** Probably more than twenty.

12:17:46 **17** **A.** I don't know.

12:17:48 **18** **Q.** Okay. So there is a difference with respect

12:17:53 **19** to the infection dose of an implant if the bacteria

12:17:58 **20** lands on an implant as compared to the -- if the

12:18:00 **21** bacteria lands on -- on skin.

12:18:02 **22** **A.** That's not what they really showed. They

12:18:04 **23** didn't say "land on." They injected it.

12:18:07 **24** **Q.** Okay. Well --

12:18:08 **25** **A.** That's different. Surgeons don't go in and

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12:18:11 **1** shoot a number of organisms into the joint.

12:18:15 **2** **Q.** Well you agree with me that -- forget about

12:18:18 **3** the way it -- the bacteria gets there, okay, whether

12:18:21 **4** or not it's -- it's injected. I mean, the bacteria

12:18:23 **5** got to the joint in this case; correct? To the -- the

12:18:27 **6** prosthesis.

12:18:28 **7** **A.** But how can I forget how they got there?

12:18:28 **8** **Q.** Okay.

12:18:30 **9** **A.** I'm not sure --

12:18:31 **10** **Q.** So is that a limitation of the study?

12:18:34 **11** **A.** Oh. Well if you want to posit that the air

12:18:37 **12** is important, nobody has done the infectious dose by

12:18:41 **13** the air.

12:18:43 **14** **Q.** Well that would be unethical, wouldn't it,

12:18:46 **15** in a human?

12:18:46 **16** **A.** Well that would be unethical in a human, but

12:18:49 **17** you could count, in the study that I was proposing, or

12:18:52 **18** in another study, show me that one organism in the

12:18:55 **19** air, a marked organ -- marked species that landed

12:19:01 **20** later into the wound, not start with the wound and go

12:19:01 **21** out, --

12:19:01 **22** **Q.** Let me ask you this --

12:19:04 **23** **A.** -- and then caused an infection with that

12:19:06 **24** same --

12:19:06 **25** **Q.** Okay.

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12:19:06 **1** **A.** -- genus and species and same fingerprint.

12:19:10 **2** **Q.** Let me ask you this question.

12:19:12 **3** **A.** Yeah.

12:19:14 **4** **Q.** If Darouiche's study, the one that came out

12:19:17 **5** recently which you emailed him about. Do you recall

12:19:19 **6** that?

12:19:20 **7** **A.** Yeah.

12:19:20 **8** **Q.** Okay. He did a microbiology study and it

12:19:21 **9** indicated that the -- the -- the bacteria came from

12:19:26 **10** the air, you know, because of the increased bacterial

12:19:30 **11** load over -- over the surgical site. Would that

12:19:32 **12** change your opinion in this case?

12:19:34 **13** **A.** What he showed was a correlation between

12:19:38 **14** particles and bacteria and the four infections, and he

12:19:43 **15** modeled that to get the correlation.

12:19:45 **16** **Q.** And your criticism of him is that he didn't

12:19:48 **17** do any microbiological testing.

12:19:49 **18** **A.** That's one, yeah, sure. I think that's

12:19:51 **19** important.

12:19:52 **20** **Q.** Because you're not sure whether the bacteria

12:19:54 **21** came from the flora or from the air; correct? The

12:19:57 **22** patient's flora or the air.

12:19:58 **23** **A.** Yeah.

12:19:58 **24** **Q.** Okay. If he did do microbiological testing

12:20:00 **25** and indicated that the bacteria that caused the

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12:20:02 **1** infections came from the bacteria that was in the air,

12:20:04 **2** would that change your opinion with respect to whether

12:20:07 **3** or not bacterial load in the air has a -- has a impact

12:20:10 **4** on periprosthetic joint infections?

12:20:12 **5** **A.** Well --

12:20:12 **6** MR. COREY GORDON: Object to the form of

12:20:12 **7** the question, --

12:20:12 **8** **A.** Yeah.

12:20:14 **9** MR. COREY GORDON: -- misstate --

12:20:15 **10** mischaracterizes his testimony.

12:20:16 **11** THE WITNESS: Thank you. I didn't mean to

12:20:17 **12** interrupt, but.

12:20:18 **13** **A.** So one of the things you would like to know

12:20:21 **14** is if there's an organism in the air and if we did

12:20:25 **15** this hypothetical study where we actually had good

12:20:29 **16** microbiology; did it start, first of all, in the flora

12:20:32 **17** of the patient, the microbiome, somehow get into the

12:20:35 **18** air -- I mean, I can imagine how that might happen,

12:20:38 **19** and then land -- or are we talking about a totally

12:20:42 **20** different organism that started on the ground, which

12:20:45 **21** is what you postulated initially, got whipped up by a

12:20:49 **22** device and then hung over the wound and then caused

12:20:54 **23** the infection.

12:20:57 **24** **Q.** Are you asking me a question?

12:20:59 **25** **A.** Well, no. I'm just trying to answer you.

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12:21:01 **1** **Q.** Well let's see -- let's go to the Darouiche  
 12:21:04 **2** article just a couple things.  
 12:21:05 **3** **A.** Okay.  
 12:21:05 **4** **Q.** You do understand that he found a  
 12:21:07 **5** correlation between bacterial load in the air and  
 12:21:14 **6** periprosthetic joint infections, but no correlation  
 12:21:16 **7** with superficial wound infections.  
 12:21:18 **8** **A.** That's what he said, yeah.  
 12:21:20 **9** **Q.** Do you agree with that?  
 12:21:20 **10** **A.** Yeah. No, he said that.  
 12:21:22 **11** **Q.** Okay. But do you have any disagreement of  
 12:21:23 **12** that, --  
 12:21:25 **13** MR. COREY GORDON: Object to the form of  
 12:21:25 **14** the question.  
 12:21:25 **15** **Q.** -- or criticism of that?  
 12:21:27 **16** **A.** He's reporting what he found, and I'm saying  
 12:21:29 **17** if that's what he reported, that's what we'll go with.  
 12:21:31 **18** **Q.** Well, doctor, you've done a huge literature  
 12:21:34 **19** review and you've agreed with some articles, you've  
 12:21:37 **20** disagreed with some articles. I'm asking: Do you  
 12:21:39 **21** disagree with that conclusion?  
 12:21:40 **22** **A.** On his? No.  
 12:21:41 **23** **Q.** Okay.  
 12:21:41 **24** **A.** I mean, that's what he found.  
 12:21:42 **25** **Q.** Okay. And you don't disagree with it.

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12:22:56 **1** or not any of those bacteria he found were involved in  
 12:23:00 **2** the infections.  
 12:23:01 **3** **Q.** Okay. So we need to do microbiological  
 12:23:04 **4** testing. That's your criticism.  
 12:23:06 **5** **A.** Absolutely.  
 12:23:07 **6** **Q.** Okay.  
 12:23:07 **7** **A.** And, you know --  
 12:23:07 **8** **Q.** Okay.  
 12:23:08 **9** **A.** -- what -- what, three Staph and one mixed  
 12:23:11 **10** infection.  
 12:23:40 **11** (Discussion off the stenographic record.)  
 12:23:47 **12** MR. ASSAAD: Let's take a break for lunch,  
 12:23:49 **13** guys.  
 12:23:50 **14** THE WITNESS: Okay.  
 12:23:52 **15** THE REPORTER: Off the record, please.  
 12:23:55 **16** (Luncheon recess taken at  
**17** approximately 12:23 p.m.)  
**18**  
**19**  
**20**  
**21**  
**22**  
**23**  
**24**  
**25**

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12:21:44 **1** **A.** Yeah.  
 12:21:44 **2** **Q.** Okay. So you agree that the bacterial  
 12:22:04 **3** sampling over the surgical site in the Darouiche study  
 12:22:07 **4** has a direct correlation with periprosthetic joint  
 12:22:11 **5** infection, you just don't know where that bacteria  
 12:22:13 **6** came from. Is that correct?  
 12:22:15 **7** MR. COREY GORDON: Object to the form of  
 12:22:16 **8** the question.  
 12:22:16 **9** **A.** I surely don't know where the bacteria came  
 12:22:19 **10** from, and he certainly didn't match it to his four  
 12:22:23 **11** infections. It's a very small number of infections,  
 12:22:25 **12** but he didn't match it.  
 12:22:27 **13** **Q.** But we do know that when the bacterial load,  
 12:22:29 **14** the CFUs were increased over the -- over the surgical  
 12:22:33 **15** site that there was a statistically significant  
 12:22:36 **16** increase in periprosthetic joint infections; correct?  
 12:22:38 **17** **A.** That was his correlation, absolutely  
 12:22:40 **18** correct.  
 12:22:40 **19** **Q.** And you don't disagree with that.  
 12:22:41 **20** **A.** No.  
 12:22:42 **21** **Q.** Okay. Your -- Your criticism is you don't  
 12:22:46 **22** know whether that bacteria came from the patient's  
 12:22:48 **23** flora or from somewhere else, and there needs to be  
 12:22:52 **24** further testing to determine that.  
 12:22:53 **25** **A.** Has to be a lot more testing to know whether

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**1** AFTERNOON SESSION  
**2** (Deposition reconvened at  
**3** approximately 12:53 p.m.)  
**4** BY MR. ASSAAD:  
 12:53:42 **5** **Q.** Are you ready to continue, doctor?  
 12:53:46 **6** **A.** Sure. Thank you.  
 12:53:47 **7** **Q.** Let's go to page 77 of your report regarding  
 12:53:50 **8** the animal studies.  
 12:53:53 **9** **A.** Okay.  
 12:53:54 **10** **Q.** And you cited these studies because you  
 12:53:56 **11** believe they help you formulate your opinion; correct?  
 12:53:58 **12** **A.** Yes.  
 12:53:59 **13** **Q.** And you believe that they're authoritative;  
 12:54:00 **14** correct?  
 12:54:01 **15** **A.** Yes.  
 12:54:01 **16** **Q.** Okay. Let's go to the New Zealand study of  
 12:54:07 **17** white rabbits?  
 12:54:09 **18** MR. COREY GORDON: Exhibit 8?  
 12:54:10 **19** **A.** Oh, Craig? Okay.  
 12:54:14 **20** MR. COREY GORDON: Oh. I'm sorry.  
 12:54:14 **21** **Q.** And that's a -- They used 10 animals, and  
 12:54:17 **22** they inoculated the -- the rabbits with 10 times 5 to  
 12:54:21 **23** 10 times 8 CFUs; correct?  
 12:54:23 **24** **A.** Yeah, I have 10 to the 2, 10 to the 4.  
 12:54:28 **25** Maybe I missed that somewhere.

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12:54:30 **1** **Q.** The third one down, New Zealand --

12:54:30 **2** **A.** Oh, third one down.

12:54:30 **3** **Q.** Yes.

12:54:30 **4** **A.** Oh, okay.

12:54:32 **5** **Q.** I'm sorry, that's the second New Zealand.

12:54:34 **6** **A.** All right. Okay.

12:54:35 **7** **Q.** New Zealand likes their rabbits, I guess,

12:54:37 **8** huh?

12:54:37 **9** **A.** Yeah. Okay. Got it.

12:54:39 **10** **Q.** So you agree that study wasn't -- it was

12:54:41 **11** just to show the mechanism of these implants getting

12:54:44 **12** infected, they didn't look at inoculation dose.

12:54:48 **13** **A.** Well a lot of studies in fact are trying to

12:54:51 **14** get as high a infected dose so they can actually track

12:54:56 **15** what's going on with these type of infections rather

12:54:58 **16** than scaling up the dose to know exactly what the ID<sub>50</sub>

12:55:03 **17** is, for example.

12:55:04 **18** **Q.** Exactly.

12:55:04 **19** And this study, if you recall, they were

12:55:06 **20** looking about ho -- tracking the infection and they

12:55:10 **21** did MRIs and everything. Do you recall?

12:55:11 **22** **A.** Umm-hmm.

12:55:14 **23** **Q.** "Yes"?

12:55:14 **24** **A.** Yes.

12:55:15 **25** **Q.** Okay.

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12:56:18 **1** **A.** Well the focus I had was on the infecting

12:56:18 **2** dose.

12:56:18 **3** **Q.** Okay.

12:56:21 **4** **A.** That's what I was trying to get at.

12:56:24 **5** **Q.** Well this didn't really talk about infecting

12:56:25 **6** dose, this was more of, like, what occurs when the

12:56:27 **7** patien -- when the -- when the rabbit gets infected,

12:56:30 **8** and following the infection by doing MRI; correct?

12:56:32 **9** MR. COREY GORDON: Object to the form of

12:56:33 **10** the question.

12:56:33 **11** **A.** What --

12:56:34 **12** **Q.** Correct; "yes" or "no"?

12:56:35 **13** **A.** In other words, I'm trying to find any data

12:56:37 **14** that I could, at least in a brief survey, of what it

12:56:40 **15** takes to infect the joint, --

12:56:41 **16** **Q.** Okay. So you like --

12:56:42 **17** **A.** -- and this was one of the studies.

12:56:44 **18** **Q.** So you like to take -- you like to take the

12:56:45 **19** data that supports your position --

12:56:46 **20** **A.** No.

12:56:47 **21** **Q.** -- and then disregard data that doesn't

12:56:48 **22** support your position; correct?

12:56:50 **23** **A.** No, that's not true.

12:56:51 **24** **Q.** So you think that --

12:56:52 **25** **A.** I've already shown you studies where there

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12:55:28 **1** (Discussion off the stenographic record.)

12:55:28 **2** (Wenzel Exhibit 9 marked for

12:55:35 **3** identification.)

12:55:35 **4** (Discussion off the stenographic record.)

12:55:35 **5** BY MR. ASSAAD:

12:55:35 **6** **Q.** Doctor, you've read this study; correct?

12:55:37 **7** **A.** I have.

12:55:38 **8** **Q.** And you relied upon this study; correct?

12:55:41 **9** **A.** I did.

12:55:41 **10** **Q.** Okay. Let's go to the "Discussion" section

12:55:47 **11** on page 3 of this study.

12:55:52 **12** **A.** Okay.

12:55:54 **13** **Q.** On the second paragraph under "Discussion"

12:55:56 **14** it says: "Because the main source of contamination in

12:56:00 **15** total joint replacement is wound infection via

12:56:03 **16** operating room air, we attempted to mimic

12:56:05 **17** perioperative contamination by inoculating the

12:56:07 **18** bacteria into the joint immediately after wound

12:56:10 **19** closure."

12:56:10 **20** Did I read that correctly?

12:56:13 **21** **A.** Yes. That's what they say.

12:56:13 **22** **Q.** You disagree with that; don't you?

12:56:15 **23** **A.** I do.

12:56:15 **24** **Q.** Okay. So disagree with a study that you

12:56:16 **25** think is authoritative; correct?

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12:56:55 **1** were data that I had, some clinical data, where it

12:56:57 **2** didn't support it, so you know that.

12:56:59 **3** **Q.** But you disregard the -- the -- these

12:57:01 **4** authors here that did this study that said that the --

12:57:05 **5** that -- that the main source of contamination in total

12:57:10 **6** joint replacement is wound infection via operating

12:57:12 **7** room.

12:57:12 **8** You disregard that; correct?

12:57:13 **9** **A.** I disagree with that. That had nothing

12:57:16 **10** related -- They didn't look at where the organisms

12:57:18 **11** came from here. They had them in the syringe and

12:57:21 **12** injected them.

12:57:22 **13** **Q.** Okay. But that's why they injected them the

12:57:25 **14** way they did; correct?

12:57:26 **15** MR. COREY GORDON: Object to the form of

12:57:27 **16** the question, also lack of foundation.

12:57:28 **17** **Q.** I mean --

12:57:28 **18** **A.** I don't know why they did what they did, but

12:57:30 **19** they do say that they -- they think it's airborne. I

12:57:34 **20** disagree with that.

12:57:34 **21** **Q.** It says --

12:57:34 **22** **A.** They injected animals, and that's the kind

12:57:37 **23** of dose that they used to get infection.

12:57:38 **24** **Q.** "...we attempted to mimic perioperative

12:57:40 **25** contamination by inoculating the bacteria in the joint

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12:57:42 **1** immediately after wound closure."  
 12:57:44 **2** Did I read that correctly?  
 12:57:44 **3 A.** Yes.  
 12:57:45 **4 Q.** And they did that because the main source of  
 12:57:47 **5** contamination, according to them, in total re -- joint  
 12:57:51 **6** replacement is wound infection via operating room air;  
 12:57:54 **7** correct?  
 12:57:55 **8 A.** That's what they said.  
 12:57:56 **9** MR. COREY GORDON: Object to the form of  
 12:57:58 **10** the question, lack of foundation.  
 12:58:21 **11 Q.** Going to page 78.  
 12:58:23 **12 A.** Okay.  
 12:58:28 **13 Q.** Under the sheep model, --  
 12:58:30 **14 A.** Yeah.  
 12:58:31 **15 Q.** -- Williams D. L., --  
 12:58:33 **16 A.** Yeah.  
 12:58:33 **17 Q.** -- the Journal of Biomedical Materials;  
 12:58:36 **18** correct?  
 12:58:36 **19 A.** Yes.  
 12:58:37 **20 Q.** They inoculated the sheep with only 10 CFU;  
 12:58:40 **21** correct?  
 12:58:40 **22 A.** Yeah, on the membrane.  
 12:58:43 **23 Q.** Okay. And that's not that many CFU;  
 12:58:45 **24** correct?  
 12:58:46 **25 A.** That's a low number.

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12:58:47 **1 Q.** Okay. And in fact isn't it fair or accurate  
 12:58:54 **2** that in this point in time you have absolutely no  
 12:58:58 **3** opinion to the amount of CFUs required to cause a  
 12:59:03 **4** periprosthetic joint infection?  
 12:59:05 **5 A.** What I would say is that I think -- I think  
 12:59:09 **6** it's fewer organisms to cause a periprosthetic  
 12:59:16 **7** infection than with a non-periprosthetic infection.  
 12:59:19 **8** If you asked me to come up with a number, it's harder  
 12:59:22 **9** to find that. You want me to pick a number and?  
 12:59:26 **10 Q.** I don't want you to guess.  
 12:59:27 **11 A.** Yeah.  
 12:59:27 **12 Q.** I mean, I'm looking at your last paragraph.  
 12:59:29 **13 A.** Yeah.  
 12:59:30 **14 Q.** I mean, you do say, "It is generally thought  
 12:59:32 **15** that with a foreign body (joint prosthesis), the  
 12:59:36 **16** infecting dose of bacteria is less than that for  
 12:59:39 **17** surgeries in which no foreign device is placed";  
 12:59:41 **18** correct?  
 12:59:42 **19 A.** And I stand by that.  
 12:59:42 **20 Q.** Okay. You just don't know what the  
 12:59:44 **21** infecting dose is; correct?  
 12:59:45 **22 A.** That's true.  
 12:59:45 **23 Q.** But we could agree, based on some of the  
 12:59:48 **24** rabbit models, that it could be as low as 17.  
 12:59:50 **25 A.** No, that's not true. In the experimental

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12:59:53 **1** model, yes, you can create an infection by injecting  
 12:59:56 **2** organisms directly into the joint or injecting  
 13:00:00 **3** organisms into the vein. That's not what surgeons do  
 13:00:02 **4** when they're putting a prosthesis in. They don't take  
 13:00:05 **5** a syringe of Staph, inject it directly into the joint  
 13:00:09 **6** or put it into the IV.  
 13:00:11 **7 Q.** Can we agree at least that it's at least a  
 13:00:15 **8** magnitude of 100 times less between a superficial and  
 13:00:18 **9** a prosthetic?  
 13:00:19 **10 A.** I don't know -- I don't know what the number  
 13:00:21 **11** is, so I've told you that. I think it's going to be  
 13:00:24 **12** less. I don't know.  
 13:00:24 **13 Q.** How much less?  
 13:00:27 **14 A.** I don't know.  
 13:00:27 **15** You asked me to, you know, come up with a  
 13:00:29 **16** number, and then you say, well don't guess, because  
 13:00:32 **17** there just aren't the data.  
 13:00:33 **18** Now the other thing to tell you related to  
 13:00:35 **19** -- You want to jump from here to people, which is  
 13:00:37 **20** fine --  
 13:00:38 **21 Q.** I don't want to jump to people yet.  
 13:00:40 **22 A.** -- you know, but, you know, to infect a  
 13:00:44 **23** rabbit by injecting it into the joint, I would say,  
 13:00:47 **24** yes, it takes very few bacteria.  
 13:00:50 **25 Q.** Okay.

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13:00:50 **1 A.** That's what I'll know from this study. Or  
 13:00:53 **2** sheep, in this case.  
 13:00:54 **3 Q.** And as little --  
 13:00:55 **4** When you're injecting as little as 17  
 13:00:57 **5** bacteria.  
 13:00:58 **6 A.** They're very low numbers, yeah.  
 13:01:01 **7 Q.** But the rabbit study we showed 17 --  
 13:01:01 **8 A.** Yeah.  
 13:01:04 **9 Q.** -- bacteria based on the IV -- for 50  
 13:01:05 **10** percent of the population from rabbits; --  
 13:01:07 **11 A.** Yeah.  
 13:01:07 **12 Q.** -- correct?  
 13:01:08 **13 A.** I think that's right.  
 13:01:09 **14** Where was that where you're referring to?  
 13:01:11 **15 Q.** On the first one, the Southwood.  
 13:01:13 **16 A.** The Southwood. Okay.  
 13:01:20 **17** Yeah.  
 13:01:20 **18 Q.** Okay?  
 13:01:20 **19 A.** Yeah.  
 13:01:21 **20 Q.** And that's for 50 percent of the population  
 13:01:24 **21** to infect; correct?  
 13:01:25 **22 A.** Of animals, right.  
 13:01:28 **23 Q.** Okay. So that means 17 CFUs would infect 50  
 13:01:31 **24** percent of the rabbits in that scenario.  
 13:01:32 **25 A.** If you inject them.

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13:01:34 **1** **Q.** If you inject them.  
 13:01:35 **2** Which means that there is a percentage of  
 13:01:36 **3** people that -- percentage of rabbits that require less  
 13:01:40 **4** than --  
 13:01:40 **5** **A.** Might be.  
 13:01:41 **6** **Q.** -- 17 CFU --  
 13:01:42 **7** **A.** Might be.  
 13:01:42 **8** **Q.** -- to cause an infection.  
 13:01:43 **9** **A.** Yeah.  
 13:01:44 **10** **Q.** Okay.  
 13:01:51 **11** (Interruption by the reporter.)  
 13:01:51 **12** BY MR. ASSAAD:  
 13:01:53 **13** **Q.** And in fact if you go back to Exhibit Number  
 13:01:56 **14** 8, you see that under Figure 2 that as little as one  
 13:02:12 **15** CFU could cause an infection in the rabbits under the  
 13:02:20 **16** medullary graph.  
 13:02:22 **17** **A.** 1.3 times 10 to the something.  
 13:02:24 **18** **Q.** No. I'm looking at the graph itself. You  
 13:02:26 **19** see where -- You see where it says "Medullary (no  
 13:02:30 **20** prosthesis)", it starts around 20?  
 13:02:32 **21** **A.** Yeah.  
 13:02:32 **22** **Q.** Okay. That means for anything below 20  
 13:02:35 **23** times 10 to the X there was no infection; correct?  
 13:02:39 **24** **A.** Yes.  
 13:02:39 **25** **Q.** But with the medullary where there was a  
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13:02:41 **1** prosthesis you agree that it almost starts at zero.  
 13:02:44 **2** **A.** It's very low.  
 13:02:45 **3** **Q.** Very low. Less than 17.  
 13:02:47 **4** **A.** Yes.  
 13:02:47 **5** MR. COREY GORDON: Object to the form of  
 13:02:47 **6** the question.  
 13:02:49 **7** **Q.** Okay. 17 CFUs was for the 50 percent;  
 13:02:51 **8** correct?  
 13:02:53 **9** **A.** That's what they found.  
 13:02:53 **10** **Q.** Okay.  
 13:02:53 **11** (Wenzel Exhibit 10 marked for  
 13:02:53 **12** identification.)  
 13:02:53 **13** BY MR. ASSAAD:  
 13:04:29 **14** **Q.** What's been marked as Exhibit 10 are emails  
 13:04:31 **15** between you and Dr. Darouiche that was provided to us.  
 13:04:35 **16** This look like the email that you've had between him?  
 13:04:37 **17** **A.** Yes.  
 13:04:38 **18** **Q.** And I just want to talk about one thing.  
 13:04:41 **19** During -- During --  
 13:04:42 **20** You questioned him about this study in  
 13:04:45 **21** formulating your opinions in this case; correct?  
 13:04:47 **22** **A.** Yeah.  
 13:04:47 **23** **Q.** Okay. And in fact one of your questions was  
 13:04:50 **24** whether or not a forced-air warming device was used in  
 13:04:52 **25** the operating room during his -- during the study in  
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13:04:57 **1** which he compared biological load and surgical-site --  
 13:05:00 **2** and periprosthetic joint infections; correct?  
 13:05:03 **3** **A.** Yes.  
 13:05:05 **4** **Q.** And you found out that all patients were  
 13:05:05 **5** used -- were given a warming device; correct?  
 13:05:06 **6** **A.** That's what he said.  
 13:05:08 **7** **Q.** Okay. That's all I have.  
 13:05:18 **8** What is the difference between a superficial  
 13:05:22 **9** surgical-site infection and a periprosthetic joint  
 13:05:24 **10** infection?  
 13:05:25 **11** **A.** Well a deep infection would be that at the  
 13:05:28 **12** fascia level or below.  
 13:05:29 **13** **Q.** Is a deep joint infection different than a  
 13:05:33 **14** periprosthetic joint infection?  
 13:05:33 **15** **A.** I would classify them the same as deep  
 13:05:35 **16** infection.  
 13:05:36 **17** **Q.** Well you could have a deep infection but not  
 13:05:37 **18** have -- but it doesn't reach the joint; correct?  
 13:05:40 **19** **A.** Could possibly, yeah.  
 13:05:41 **20** **Q.** Okay.  
 13:05:42 **21** **A.** But by that time you're in trouble, yeah.  
 13:05:44 **22** **Q.** You're in trouble, but there is a  
 13:05:45 **23** distinction; correct?  
 13:05:46 **24** **A.** There could be, yeah.  
 13:05:47 **25** **Q.** Okay. I mean, there is technically a  
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13:05:49 **1** superficial surgical-site infection; correct? Which  
 13:05:53 **2** is --  
 13:05:53 **3** **A.** There are superficial.  
 13:05:55 **4** **Q.** -- pretty much the skin area and the first  
 13:05:56 **5** couple layers, the first --  
 13:05:57 **6** **A.** Yeah.  
 13:05:57 **7** **Q.** Okay. Then you have a deep joint, which can  
 13:06:00 **8** include the -- or --  
 13:06:03 **9** So you could have a deep -- a deep  
 13:06:07 **10** infection, right, which could include the joint or may  
 13:06:10 **11** not include the joint; correct?  
 13:06:11 **12** **A.** Yes.  
 13:06:11 **13** **Q.** And then you have a periprosthetic joint  
 13:06:13 **14** infection which definitely includes the joint;  
 13:06:14 **15** correct?  
 13:06:15 **16** **A.** That is the same.  
 13:06:16 **17** **Q.** Okay.  
 13:06:17 **18** **A.** I would use the same.  
 13:06:20 **19** **Q.** You'd use the same?  
 13:06:20 **20** **A.** Yeah.  
 13:06:20 **21** **Q.** You've never seen it in the literature where  
 13:06:21 **22** it's been distinguished?  
 13:06:23 **23** **A.** No, I said I would -- I would say a  
 13:06:25 **24** periprosthetic joint is a deep joint infection, yeah.  
 13:06:26 **25** **Q.** Okay. But a deep joint infection may not  
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13:06:26 **1** include the peripros --

13:06:26 **2** **A.** May not.

13:06:37 **3** **Q.** Okay.

13:06:37 **4** (Interruption by the reporter.)

13:06:38 **5** **Q.** A deep joint infection may not include a

13:06:41 **6** periprosthetic joint infection; correct?

13:06:43 **7** **A.** Yes.

13:06:46 **8** **Q.** Okay. And in fact you agree with me that

13:06:48 **9** you could have a periprosthetic joint infection and

13:06:50 **10** not have a superficial surgical-site infection.

13:06:54 **11** **A.** Yes.

13:06:55 **12** **Q.** Okay. And in fact you could have a

13:06:59 **13** periprosthetic joint infection and not have a -- a

13:07:03 **14** deep wound infection.

13:07:06 **15** **A.** Yeah, I can't cite anything where I know

13:07:08 **16** that, yeah.

13:07:11 **17** **Q.** And you agree that with respect to a

13:07:15 **18** periprosthetic joint infection, that the most likely

13:07:19 **19** time that a -- a patient obtained the bacteria that

13:07:22 **20** causes the periprosthetic joint infection was during

13:07:26 **21** the time that the patient was in surgery.

13:07:28 **22** MR. COREY GORDON: Object to the form of

13:07:29 **23** the question.

13:07:30 **24** **A.** Yeah, most people think that's the time when

13:07:33 **25** things happen.

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13:07:34 **1** **Q.** You don't disagree with that.

13:07:37 **2** **A.** No.

13:07:38 **3** **Q.** Okay. Now let's just assume that we're

13:07:43 **4** dealing with a -- a periprosthetic joint infection

13:07:46 **5** that is not also a superficial wound infection. You

13:07:53 **6** agree that the bacteria that causes the infection

13:08:02 **7** occurred perioperatively.

13:08:05 **8** **A.** Yes, --

13:08:06 **9** MR. COREY GORDON: Object to the form of

13:08:07 **10** the question.

13:08:07 **11** **A.** -- I think so.

13:08:08 **12** **Q.** As compared to someone having an untreated

13:08:11 **13** superficial wound infection that tunneled down to the

13:08:12 **14** joint.

13:08:14 **15** **A.** I see what you're saying, yes.

13:08:15 **16** **Q.** Okay. So you agree with that; correct?

13:08:18 **17** **A.** Yeah.

13:08:19 **18** **Q.** And what is your opinion on what is getting

13:08:40 **19** infect -- what -- where the bacteria is -- where the

13:08:49 **20** bacteria is when a periprosthetic joint infection --

13:08:52 **21** And let me rephrase. That was a bad question. Strike

13:08:55 **22** that.

13:08:55 **23** You agree it's possible that the implant

13:09:06 **24** itself could have bacteria on it before it's even

13:09:09 **25** placed in the joint.

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13:09:12 **1** **A.** Is it possible that --

13:09:14 **2** **Q.** Yes.

13:09:15 **3** **A.** -- that it could happen?

13:09:16 **4** **Q.** Yes.

13:09:16 **5** **A.** I can't cite a study but, you know, I never

13:09:19 **6** say "always" or "never."

13:09:24 **7** **Q.** Well, for example, if a person handling the

13:09:31 **8** implant prior to placing it into the -- into the

13:09:38 **9** joint, if the person's hands are not sterile and has

13:09:41 **10** contaminants you might contaminate the implant;

13:09:43 **11** correct?

13:09:44 **12** **A.** So in a hypothetical situation if somebody

13:09:47 **13** contaminates the implant, the implant is contaminated.

13:09:50 **14** **Q.** Yes.

13:09:50 **15** **A.** Yes.

13:09:53 **16** **Q.** Okay. And, I mean, with everything, even

13:09:54 **17** instruments, we sterilize instruments because we don't

13:09:57 **18** want contaminated instruments to cause infection;

13:09:59 **19** correct?

13:09:59 **20** **A.** That's right.

13:10:00 **21** **Q.** There's been studies that sterilization of

13:10:03 **22** instruments reduces the incident of infection;

13:10:06 **23** correct?

13:10:06 **24** **A.** I think so.

13:10:08 **25** **Q.** I mean, otherwise -- I mean -- I mean,

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13:10:11 **1** that's just common knowledge; correct?

13:10:12 **2** **A.** Yes.

13:10:13 **3** **Q.** I mean in fact there's really no prospective

13:10:17 **4** study that washing hands reduces the incident of

13:10:20 **5** infection; is there?

13:10:21 **6** **A.** I think there's lots of studies that show

13:10:23 **7** that.

13:10:24 **8** **Q.** Prospective or retrospective?

13:10:27 **9** **A.** Probably I would go back to Semmelweis.

13:10:27 **10** **Q.** Okay.

13:10:27 **11** (Interruption by the reporter.)

13:10:34 **12** (Discussion off the stenographic record.)

13:10:34 **13** **A.** Do you understand his studies?

13:10:34 **14** **Q.** I know the study, but wasn't that

13:10:37 **15** retrospective?

13:10:38 **16** **A.** He was there through the whole time.

13:10:42 **17** (Discussion off the stenographic record.)

13:10:47 **18** **Q.** But in any event, we agree that if devices

13:10:51 **19** that are used during a surgical procedure are

13:10:56 **20** contaminated, they may cause infections.

13:11:00 **21** **A.** If you have a contaminated instrument, it's

13:11:03 **22** certainly possible that something might happen and the

13:11:06 **23** patient could get infected.

13:11:07 **24** **Q.** And that -- that would be considered an

13:11:09 **25** exogenous source; correct?

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13:11:12 **1** **A.** It would be considered an exogenous source,  
 13:11:14 **2** but let's make sure that we have the terms down. If  
 13:11:19 **3** the -- If the instrument that you are saying in this  
 13:11:23 **4** hypothetical case actually was contaminated with the  
 13:11:26 **5** patient's own flora, then we have to have a little bit  
 13:11:29 **6** more strict definition.  
 13:11:31 **7** **Q.** And I understand that. And that's why after  
 13:11:34 **8** usually the first incision they change the scalpel so  
 13:11:36 **9** they don't infect the wound with the patient's flora;  
 13:11:39 **10** correct?  
 13:11:40 **11** MR. COREY GORDON: Object to the form of  
 13:11:41 **12** the question, assumes facts not in evidence.  
 13:11:43 **13** **A.** As far as I know that's correct, yeah.  
 13:11:45 **14** **Q.** Okay. I mean, you do understand that  
 13:11:48 **15** orthopedic surgeons and the hospital staff in an  
 13:11:51 **16** operating room have -- place procedures and techniques  
 13:11:57 **17** to reduce the risks of infection during an operating  
 13:12:02 **18** procedure.  
 13:12:03 **19** **A.** Surgeons hate to have an infection.  
 13:12:05 **20** **Q.** Okay.  
 13:12:06 **21** **A.** They really never want to have one.  
 13:12:08 **22** **Q.** And in fact are you aware that many  
 13:12:09 **23** surgeons, before they touch the implant, change their  
 13:12:12 **24** gloves?  
 13:12:12 **25** **A.** Yes.

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13:13:19 **1** And the reason why he changes his gloves is  
 13:13:22 **2** because he doesn't want to place any bacteria on the  
 13:13:25 **3** implant; correct?  
 13:13:26 **4** **A.** I think he wants to minimize any  
 13:13:28 **5** possibility.  
 13:13:28 **6** **Q.** Okay. And then after the im --  
 13:13:29 **7** And then the implant is placed, and that  
 13:13:31 **8** bacteria, at a later point in time, may cause biofilm,  
 13:13:35 **9** which would make it very difficult for the body to  
 13:13:37 **10** fight off.  
 13:13:38 **11** **A.** In that scenario it could happen.  
 13:13:40 **12** **Q.** Okay. And in fact they do all this to not  
 13:13:46 **13** infect the patient; correct?  
 13:13:47 **14** **A.** Surgeons hate to have an infection.  
 13:13:49 **15** **Q.** And have you yourself looked at an implant  
 13:13:55 **16** under an electron microscope?  
 13:13:57 **17** **A.** No.  
 13:13:57 **18** **Q.** Okay. Are you aware that an implant is not  
 13:14:00 **19** smooth and there are many crevices for bacteria to  
 13:14:05 **20** place themselves in?  
 13:14:06 **21** **A.** Well I haven't looked at one, but it doesn't  
 13:14:09 **22** surprise me, but I haven't looked at one.  
 13:14:11 **23** **Q.** Okay. And you understand that the reason  
 13:14:12 **24** why the body has a difficult time removing an  
 13:14:19 **25** infection or bacteria from an implant is because

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13:12:13 **1** **Q.** Okay. Because they don't want to infect the  
 13:12:18 **2** implant; correct?  
 13:12:19 **3** MR. COREY GORDON: Object to the form of  
 13:12:21 **4** the question.  
 13:12:21 **5** **Q.** Because if you -- if bacteria gets on the  
 13:12:23 **6** implant, it may form biofilm and cause a serious  
 13:12:26 **7** periprosthetic joint infection; correct?  
 13:12:28 **8** MR. COREY GORDON: Same objection.  
 13:12:29 **9** **A.** What I would say about biofilm, biofilm is  
 13:12:32 **10** -- occurs after the organisms are onto the implant.  
 13:12:36 **11** So contaminated hands don't cause a biofilm. The  
 13:12:41 **12** organisms land on a site, there is a process under  
 13:12:45 **13** which quorum sensing occurs, and you know what I'm  
 13:12:49 **14** talking about. And with quorum sensing then the  
 13:12:53 **15** biofilm is formed. It's sort of like a broadcast  
 13:12:57 **16** email to the other organisms to start making biofilm.  
 13:13:01 **17** **Q.** And I understand that.  
 13:13:02 **18** My question was that the -- I'm not saying  
 13:13:05 **19** that the surgeon transfers biofilm. Listen to my  
 13:13:09 **20** question.  
 13:13:09 **21** The surgeon changes his gloves because he  
 13:13:11 **22** doesn't want to contaminate the implant; correct?  
 13:13:14 **23** **A.** I think that's correct.  
 13:13:16 **24** **Q.** Okay. And the reason why you don't want to  
 13:13:19 **25** cause an im --

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13:14:23 **1** there's very little vascularity to the implant.  
 13:14:25 **2** **A.** It's the --  
 13:14:27 **3** THE WITNESS: Go ahead. I'm sorry.  
 13:14:27 **4** MR. COREY GORDON: No. Go ahead.  
 13:14:29 **5** **A.** It's the low vascularity and the biofilm I  
 13:14:31 **6** think are a couple of key --  
 13:14:32 **7** **Q.** Is there any vascularity to an implant?  
 13:14:36 **8** **A.** None.  
 13:14:36 **9** **Q.** Okay. So you would agree with me that once  
 13:14:38 **10** someone has an infected implant, giving the patient  
 13:14:45 **11** antibiotics without any type of vascularity is pretty  
 13:14:47 **12** much ineffective.  
 13:14:48 **13** **A.** That's not true. There are people in  
 13:14:50 **14** Switzerland that have actually gone to drugs that  
 13:14:53 **15** penetrate the biofilm. Examples of such antibiotics  
 13:14:58 **16** include the fluoroquinolones and rifampin.  
 13:15:01 **17** (Interruption by the reporter.)  
 13:15:01 **18** THE WITNESS: Fluoroquinolones. Sorry.  
 13:15:02 **19** Fluoroquinolones and rifampin.  
 13:15:02 **20** **A.** And they've been able to spare patients --  
 13:15:11 **21** and I don't know totally what the follow-up is, so --  
 13:15:15 **22** but 6 to 12 months later, without having to take the  
 13:15:18 **23** implant out. This is a hot area that people are  
 13:15:21 **24** trying to look at, because it's devastating to have  
 13:15:24 **25** the implant removed.

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13:15:25 **1** **Q.** I understand. And -- And that's in --  
 13:15:29 **2** And that's in Switzerland, you said?  
 13:15:31 **3** **A.** Yeah.  
 13:15:31 **4** **Q.** Okay. But in the United States are we using  
 13:15:33 **5** those drugs yet?  
 13:15:34 **6** **A.** We are.  
 13:15:35 **7** **Q.** Okay. And you don't know how effective they  
 13:15:37 **8** are.  
 13:15:38 **9** **A.** They look effective, and so when we're  
 13:15:40 **10** treating these infections, we're -- you know, trying  
 13:15:42 **11** to cool things down if it's already infected, we will  
 13:15:46 **12** often use a drug that penetrates biofilm; one of those  
 13:15:49 **13** two drugs, plus other antibiotics. So that's going  
 13:15:53 **14** on.  
 13:15:54 **15** Are there patients in this country where you  
 13:15:57 **16** can't, for some reason, maybe a very old person who  
 13:16:01 **17** couldn't tolerate a surgery, as an example. Are they  
 13:16:05 **18** getting these drugs? Yes, they are, to try to spare  
 13:16:08 **19** them to have a surgery. With some success.  
 13:16:10 **20** **Q.** Are these drugs done intravenously, or is it  
 13:16:13 **21** direc -- are they inoculated directly with the  
 13:16:15 **22** antibiotic right onto the implant?  
 13:16:17 **23** **A.** Actually both are bio-available orally.  
 13:16:20 **24** **Q.** Okay.  
 13:16:20 **25** **A.** The fluoroquinolones and rifampin.  
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13:16:23 **1** **Q.** But usually --  
 13:16:26 **2** You agree with me that most like -- the  
 13:16:26 **3** standard of care and the most predominant treatment  
 13:16:29 **4** for a periprosthetic joint infection is a two-stage  
 13:16:32 **5** revision.  
 13:16:33 **6** **A.** Usually that's --  
 13:16:34 **7** MR. COREY GORDON: Object to the form of  
 13:16:34 **8** the question, --  
 13:16:35 **9** THE WITNESS: Oh, okay. Sorry.  
 13:16:36 **10** MR. COREY GORDON: -- lack of foundation.  
 13:16:38 **11** **A.** I don't know if --  
 13:16:39 **12** I think that is a standard. I don't know  
 13:16:41 **13** across the country how many people are doing that, but  
 13:16:44 **14** it's often happened --  
 13:16:44 **15** **Q.** Okay.  
 13:16:45 **16** **A.** -- that way.  
 13:16:53 **17** **Q.** Now are you familiar with the preparation a  
 13:16:57 **18** patient goes through with respect to skin prep and  
 13:17:06 **19** draping for a total knee or total hip arthroplasty?  
 13:17:10 **20** MR. COREY GORDON: Object to the form of  
 13:17:11 **21** the question.  
 13:17:11 **22** **A.** I'm not a sur --  
 13:17:13 **23** MR. ASSAAD: Basis?  
 13:17:13 **24** MR. COREY GORDON: A, it's compound; B,  
 13:17:16 **25** you're -- it's a one-size-fits-all question. So if  
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13:17:20 **1** he -- He can't answer a compound question, and he  
 13:17:22 **2** can't answer a one-size-fits-all question.  
 13:17:24 **3** MR. ASSAAD: I'll -- Fair enough.  
 13:17:25 **4** BY MR. ASSAAD:  
 13:17:26 **5** **Q.** Have you ever seen a total hip surgery?  
 13:17:30 **6** **A.** I haven't actually, no.  
 13:17:31 **7** **Q.** Have you seen a total knee surgery?  
 13:17:33 **8** **A.** No.  
 13:17:34 **9** **Q.** Have you seen how a patient's prepped during  
 13:17:35 **10** those types of surgeries?  
 13:17:37 **11** **A.** Only the, you know, the description that Dr.  
 13:17:40 **12** Mont gave at Science Day.  
 13:17:42 **13** **Q.** Okay.  
 13:17:42 **14** **A.** Very elaborate preparation.  
 13:17:45 **15** **Q.** Okay. But you're aware of the types of skin  
 13:17:48 **16** preps that are used on these patients; correct?  
 13:17:50 **17** **A.** You're talking about chlorhexidine alcohol?  
 13:17:52 **18** **Q.** Yes.  
 13:17:52 **19** **A.** Yes.  
 13:17:53 **20** **Q.** Okay. And there's other types of -- of skin  
 13:17:55 **21** preps as well; correct?  
 13:17:56 **22** **A.** Some people use iodophors.  
 13:17:56 **23** **Q.** With alcohol?  
 13:18:02 **24** (Interruption by the reporter.)  
 13:18:03 **25** **A.** Today, Iodophor. And I think the tendency  
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13:18:06 **1** is today if you're going to use an iodophor to use one  
 13:18:09 **2** with an alcohol.  
 13:18:10 **3** **Q.** Okay. And in fact do you agree with me that  
 13:18:13 **4** the CDC has stated that there's really no difference  
 13:18:15 **5** between the iodophor with alcohol and the chlorhex  
 13:18:18 **6** with alcohol?  
 13:18:19 **7** **A.** I'm not sure that's how they phrased it, but  
 13:18:21 **8** they recommend a prep with an alcohol.  
 13:18:24 **9** **Q.** Okay. Whether or not it's chlorhex or  
 13:18:28 **10** iodophor.  
 13:18:29 **11** **A.** Yeah. I think they opened the door to have  
 13:18:31 **12** io -- iodophor with alcohol --  
 13:18:31 **13** **Q.** Okay.  
 13:18:34 **14** **A.** -- in their recommendations.  
 13:18:36 **15** **Q.** Do you -- Do you agree with the CDC  
 13:18:38 **16** recommendation?  
 13:18:39 **17** **A.** Yeah. I actually think that -- that there's  
 13:18:43 **18** probably advantages of chlorhexidine alcohol over  
 13:18:46 **19** iodine alcohol, and that's based on the two MIMO  
 13:18:50 **20** studies that I cite.  
 13:18:51 **21** **Q.** And you actually reviewed the CDC  
 13:18:56 **22** prevention -- Guideline For the Prevention of  
 13:18:57 **23** Surgical-Site Infection in preparation of your report;  
 13:18:59 **24** correct?  
 13:19:00 **25** **A.** Yes.  
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13:19:00 **1** **Q.** It's actually on Exhibit 2; correct?

13:19:05 **2** **A.** Do you want me to go to that?

13:19:06 **3** **Q.** Well it's on your -- on your list.

13:19:08 **4** **A.** Okay. Yeah. Yeah.

13:19:46 **5** **Q.** What is the mechanism -- Well, strike that.

13:19:49 **6** Skin flora is on the skin and may be in the

13:19:55 **7** pores, correct, either the sweat glands or the

13:19:58 **8** follicles; correct?

13:19:58 **9** **A.** Yes.

13:19:59 **10** **Q.** Does it go any deeper than that?

13:20:01 **11** **A.** Normally, no.

13:20:03 **12** **Q.** Okay. So we have the -- we have flora

13:20:04 **13** that's on the skin and in the sweat glands and -- and

13:20:07 **14** the follicle -- the hair follicles and nowhere else.

13:20:10 **15** **A.** And sebaceous glands.

13:20:12 **16** **Q.** What are the sebaceous glands?

13:20:13 **17** **A.** What are they?

13:20:14 **18** **Q.** Yeah.

13:20:14 **19** **A.** They're the glands that are primarily found

13:20:17 **20** that secrete -- they're also below the dermis. They

13:20:22 **21** secrete -- I have a picture of it, I think.

13:20:25 **22** **Q.** I believe that's where we're going right

13:20:27 **23** now.

13:20:27 **24** **A.** Yeah. And --

13:20:30 **25** Do you want to wait and go to the picture?

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13:20:42 **1** MR. GOSS: 23?

13:20:42 **2** **Q.** 23.

13:20:46 **3** **A.** Yeah.

13:20:47 **4** **Q.** Okay.

13:20:48 **5** **A.** So do you want me to explain what sebaceous

13:20:50 **6** glands are?

13:20:50 **7** **Q.** Well I asked --

13:20:51 **8** So they're -- they're between the skin

13:20:53 **9** surface and the fat; correct?

13:20:58 **10** **A.** Yeah. They're below the -- the dermis

13:21:02 **11** there, the -- the skin surface, right.

13:21:04 **12** **Q.** And you're saying that bac -- that flora

13:21:05 **13** could be in the sebaceous glands?

13:21:07 **14** **A.** There's no question about it.

13:21:09 **15** Propionibacterium acnes has been recognized to be

13:21:12 **16** there.

13:21:12 **17** **Q.** And that's P. acnes?

13:21:14 **18** **A.** P. acnes.

13:21:15 **19** **Q.** Okay. But that's mostly found on the

13:21:17 **20** shoulders; correct?

13:21:18 **21** **A.** Shoulder and back.

13:21:18 **22** **Q.** And back, but not -- it's not -- it's not

13:21:20 **23** normally found in the knee or hip; correct?

13:21:22 **24** **A.** It's very unusual to find --

13:21:22 **25** **Q.** Okay.

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13:21:23 **1** **A.** -- infections with Propionibacterium --

13:21:23 **2** **Q.** So would you agree with me that --

13:21:26 **3** **A.** -- otherwise.

13:21:28 **4** **Q.** -- that if a patient had P. acnes infection

13:21:30 **5** that it probably did not come from the patient, or if

13:21:32 **6** it did, it was through some sort of direct contact --

13:21:32 **7** MR. COREY GORDON: Object --

13:21:36 **8** **Q.** -- of a hip or knee?

13:21:37 **9** **A.** Oh. Oh.

13:21:37 **10** MR. COREY GORDON: Object to the form of

13:21:38 **11** the question.

13:21:38 **12** **A.** No. I mean, it's not -- I think I've cited

13:21:41 **13** occasionally it can happen in either hips or knees, I

13:21:45 **14** forgot where.

13:21:45 **15** **Q.** I think articles on shoulder surgery.

13:21:47 **16** **A.** Pardon me?

13:21:48 **17** **Q.** It was shoulder surgery that you were citing

13:21:51 **18** it to.

13:21:51 **19** **A.** Yeah, but also if you look at Tande and

13:21:53 **20** Patel, I think I found 1 percent.

13:21:54 **21** **Q.** How many percent?

13:21:55 **22** **A.** One percent. So it's very low. In -- In

13:21:58 **23** either hips or knees, I don't remember which cite I

13:22:00 **24** had.

13:22:00 **25** **Q.** But your --

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13:22:01 **1** But that could have come from -- I mean that

13:22:05 **2** -- there was no microbiologic study done in that case

13:22:07 **3** in which you know it came from the patient, it could

13:22:09 **4** have come from one of the staff members by direct

13:22:12 **5** contact.

13:22:12 **6** **A.** There are no --

13:22:13 **7** Not that I'm aware of any microbiologic

13:22:17 **8** studies to confirm that the same one came there. But,

13:22:20 **9** you know, we have sebaceous glands primarily in this

13:22:23 **10** area [indicating], but they're not zero other places

13:22:25 **11** of...

13:22:26 **12** **Q.** I understand that. But if someone has P.

13:22:29 **13** acnes infection in the hip or knee, --

13:22:30 **14** **A.** Yeah.

13:22:31 **15** **Q.** -- I mean it's very unlikely that it came

13:22:33 **16** from them.

13:22:34 **17** **A.** I don't know if it's unlikely.

13:22:35 **18** **Q.** So you don't know one way or the other; do

13:22:37 **19** you?

13:22:37 **20** **A.** That's right.

13:22:37 **21** **Q.** Okay. You just don't know.

13:22:38 **22** **A.** I don't know.

13:22:39 **23** **Q.** Okay. So -- And just roughly how far does

13:22:48 **24** -- is the sebaceous gland and the hair follicle or the

13:22:51 **25** sweat gland underneath the skin surface?

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13:22:53 **1** **A.** I don't know.  
 13:22:54 **2** **Q.** A millimeter?  
 13:22:55 **3** **A.** I don't know. Never seen any data on that.  
 13:22:58 **4** I'm not sure.  
 13:22:59 **5** **Q.** You don't know how thick the skin is?  
 13:23:01 **6** **A.** No. Don't know.  
 13:23:04 **7** **Q.** Okay. You've never --  
 13:23:08 **8** **A.** Don't remember looking at it.  
 13:23:09 **9** **Q.** -- never done -- in medical school did -- on  
 13:23:12 **10** a cadaver and cut through the skin?  
 13:23:15 **11** **A.** I did -- I did do that, yeah.  
 13:23:15 **12** **Q.** Okay.  
 13:23:16 **13** **A.** Wasn't very far, but I don't know.  
 13:23:17 **14** **Q.** I mean, are we talking two inches?  
 13:23:19 **15** **A.** Probably not two inches. Less.  
 13:23:21 **16** **Q.** An inch?  
 13:23:21 **17** **A.** I don't know. I already --  
 13:23:21 **18** **Q.** So you don't know?  
 13:23:22 **19** **A.** -- told you I don't know.  
 13:23:24 **20** **Q.** Okay. All right.  
 13:23:24 **21** How far is it between the -- the sweat  
 13:23:34 **22** gland, which I think is the lowest, and a knee joint?  
 13:23:41 **23** **A.** I don't know.  
 13:23:42 **24** **Q.** How far is it between a sweat gland --  
 13:23:44 **25** Well you agree the sweat gland look likes  
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13:23:47 **1** it's the lowest in this picture here?  
 13:23:49 **2** **A.** Well in the picture it looks like it's at  
 13:23:51 **3** the same level as the sebaceous glands roughly, so.  
 13:23:54 **4** **Q.** Okay. Well let's just say whatever is  
 13:23:56 **5** lowest, how far do you think the bacteria is that's on  
 13:23:59 **6** a patient's skin or in the glands or -- from a knee  
 13:24:04 **7** joint?  
 13:24:06 **8** **A.** I don't know how -- what the distance is in  
 13:24:08 **9** millimeters or not.  
 13:24:09 **10** **Q.** Okay. Well you agree that there's no -- I  
 13:24:13 **11** mean, if a person is not -- doesn't have sepsis or an  
 13:24:15 **12** infection there's no bacteria in the fat; correct?  
 13:24:22 **13** **A.** I think that's true.  
 13:24:23 **14** **Q.** Okay. And --  
 13:24:24 **15** **A.** No. No. Well in the fat, yeah. I think  
 13:24:27 **16** that's true.  
 13:24:27 **17** **Q.** And you agree with me there'd be no bacteria  
 13:24:29 **18** in the muscle if a person doesn't have an infection.  
 13:24:29 **19** **A.** Yes.  
 13:24:32 **20** **Q.** Ongoing infection; correct?  
 13:24:33 **21** **A.** If they don't have an infection?  
 13:24:33 **22** **Q.** Ongoing infection, yeah.  
 13:24:33 **23** **A.** Yes.  
 13:24:33 **24** **Q.** Okay. And you agree with me that the --  
 13:24:37 **25** (Interruption by the reporter.)  
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13:24:37 **1** **Q.** And you agree with me that there's no  
 13:24:40 **2** bacteria in the blood if the person doesn't have some  
 13:24:41 **3** sort of blood infection.  
 13:24:42 **4** **A.** By definition.  
 13:24:44 **5** **Q.** Okay. Because in fact if someone had sepsis  
 13:24:47 **6** or a blood infection it probably wouldn't be a good  
 13:24:50 **7** time to do elective surgery; correct?  
 13:24:52 **8** MR. COREY GORDON: Object --  
 13:24:52 **9** **A.** To do what?  
 13:24:53 **10** **Q.** Elective surgery.  
 13:24:54 **11** MR. COREY GORDON: Object to the form of  
 13:24:55 **12** the question, also lack of foundation.  
 13:24:56 **13** **A.** I don't think I understand the question I  
 13:24:57 **14** guess.  
 13:24:57 **15** **Q.** Well if someone had an infection, an ongoing  
 13:24:59 **16** infection, --  
 13:24:59 **17** **A.** Oh.  
 13:25:00 **18** **Q.** -- it wouldn't be -- it wouldn't be proper  
 13:25:01 **19** to do --  
 13:25:01 **20** **A.** Oh, I see.  
 13:25:04 **21** **Q.** -- elective surgery.  
 13:25:04 **22** **A.** I'm sorry. Didn't understand the que --  
 13:25:05 **23** Yeah. I try to --  
 13:25:05 **24** MR. COREY GORDON: Wait until he finishes.  
 13:25:07 **25** THE REPORTER: Yes, please.  
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13:25:08 **1** **A.** So to answer the question. One of the  
 13:25:11 **2** things that you want to do for any surgery that's  
 13:25:15 **3** elective is not to have any source of infection  
 13:25:18 **4** anywhere.  
 13:25:27 **5** **Q.** Okay. So you mentioned that there is the --  
 13:25:29 **6** the chlorhex with alcohol and the io -- iophorm [ph]?  
 13:25:34 **7** **A.** Iodophor.  
 13:25:36 **8** **Q.** Iodophor with alcohol.  
 13:25:37 **9** What percentage of the bacteria do those  
 13:25:39 **10** prep solutions kill?  
 13:25:42 **11** **A.** I don't think I know the answer to that, but  
 13:25:43 **12** a high proportion.  
 13:25:44 **13** **Q.** 99.9?  
 13:25:46 **14** **A.** I don't know.  
 13:25:47 **15** **Q.** You don't know?  
 13:25:48 **16** **A.** Might be, but I don't know. I can't cite  
 13:25:51 **17** any -- And if I answer you I want to try to cite the  
 13:25:54 **18** reference, that's what I'm saying.  
 13:25:54 **19** **Q.** Okay. So sitting here today, you don't  
 13:25:56 **20** know.  
 13:25:56 **21** **A.** No.  
 13:25:57 **22** **Q.** Okay. And does it kill the bacteria that's  
 13:25:59 **23** in the -- the subacaneous -- or the sebaceous gland?  
 13:26:06 **24** **A.** No, it doesn't.  
 13:26:07 **25** **Q.** Okay. What about the sweat glands?  
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13:26:08 **1** **A.** No.

13:26:09 **2** **Q.** What about the hair follicles?

13:26:10 **3** **A.** No.

13:26:11 **4** **Q.** Okay. So is it your opinion that the most

13:26:17 **5** likely cause of a periprosthetic joint infection is

13:26:22 **6** that the bacteria is most likely coming from the --

13:26:26 **7** either the sweat gland, the sebaceous gland or the

13:26:31 **8** hair follicle?

13:26:32 **9** **A.** That's too general a statement. For

13:26:35 **10** example, the reason I say that, there are people

13:26:37 **11** who've done things like skin preps. You first -- You

13:26:43 **12** know, Daeschlein did a study just to look -- from

13:26:46 **13** Germany -- using an alcohol skin prep and he still

13:26:49 **14** finds bacteria in about 8 to 10 percent of people

13:26:53 **15** after the prep. And then during the surgery you can

13:26:58 **16** find more.

13:26:59 **17** If I go back to the people who've looked at,

13:27:03 **18** let's say, shoulder surgery, first of all, you know,

13:27:07 **19** you saw from my report that I -- one study that was

13:27:12 **20** very large showed 21 percent of infections of the

13:27:15 **21** shoulder due to P. acnes. That's the implant. If you

13:27:20 **22** look at just rotator cuff we're talking 50, 55 percent

13:27:24 **23** of infections, rotator cuff, are P. acnes. If you

13:27:28 **24** look at spine repair for scoliosis, again about 50

13:27:32 **25** percent are P. acnes. That's where the organism

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13:28:50 **1** **Q.** What type of bacteria are in the glands?

13:28:51 **2** **A.** The one that I've talked about is P. acnes.

13:28:54 **3** **Q.** Okay. So that's the only bacteria that

13:28:56 **4** you're aware of --

13:28:56 **5** **A.** That's the only one that I'm aware of --

13:28:56 **6** **Q.** Okay.

13:28:58 **7** **A.** -- and it links to the --

13:29:00 **8** **Q.** So would it be fair to say that if a person

13:29:03 **9** has a Staph aureus or a Staph epidermis or -- Strike

13:29:10 **10** that -- if a person doesn't have a P. acnes infection,

13:29:14 **11** that the most likely -- according to the most likely

13:29:17 **12** source of the infection would be from the skin and not

13:29:21 **13** the glands.

13:29:24 **14** **A.** For Staph aureus, the source --

13:29:26 **15** **Q.** Staph aureus, MRSA, Staph epidermidis.

13:29:30 **16** Everything besides P. acnes.

13:29:31 **17** **A.** Yeah. Let me just refine a little bit.

13:29:33 **18** So carriers of Staph in the nose are, you

13:29:40 **19** know, always at higher risk than non-carriers, two to

13:29:43 **20** three times fold for Staph infection. It turns out if

13:29:48 **21** you're a carrier in the nasal microbiome, you have a

13:29:51 **22** high chance of carrying it somewhere else, perineum,

13:29:56 **23** groin, axilla, as you know.

13:29:59 **24** **Q.** And I'm just talk --

13:29:59 **25** We're going to get there, and I promise you

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13:27:36 **1** lives.

13:27:37 **2** Now if you -- peo -- I've -- I've quoted

13:27:40 **3** Sethi and Matsen and the -- a Japanese study that

13:27:46 **4** showed the organisms are there at the time of the

13:27:51 **5** incision, before the -- after the prep, before the

13:27:55 **6** incision. And Shiono's study with the spine and the

13:28:00 **7** back where they're repairing scoliosis. So 36 percent

13:28:04 **8** of the time after the prep they can find P. acnes.

13:28:09 **9** And then when they go in and actually look at the

13:28:12 **10** lamina, immediately exposing the lamina, it's already

13:28:16 **11** colonized in something like 25 or 35 percent.

13:28:19 **12** So to me that comes back to the microbiome,

13:28:23 **13** back to the fact that we don't have a perfect skin

13:28:27 **14** disinfectant or antiseptic, rather, and the organism's

13:28:33 **15** there.

13:28:34 **16** **Q.** For P. acne.

13:28:34 **17** **A.** Yeah. That's the marker organism because

13:28:36 **18** it's hard to track, you know, a Staph epi, for

13:28:40 **19** example.

13:28:41 **20** **Q.** Is there Staph epi in the hair follicles?

13:28:43 **21** **A.** Not that I'm aware of, no.

13:28:44 **22** **Q.** Is there Staph epi in the -- in the glands?

13:28:47 **23** **A.** Don't think so.

13:28:48 **24** **Q.** What about Staph aureus?

13:28:49 **25** **A.** No.

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13:30:00 **1** we're going to get to the nose issue.

13:30:02 **2** I'm talking about where we're looking at the

13:30:04 **3** skin here --

13:30:05 **4** **A.** Yep.

13:30:05 **5** **Q.** -- on page -- on -- I'm just trying to

13:30:09 **6** determine what's the most likely source of the

13:30:11 **7** different type of bacteria.

13:30:12 **8** So if you look at page 23, okay?

13:30:19 **9** **A.** Yeah. I've got it.

13:30:26 **10** **Q.** The only bacteria that you are aware of that

13:30:28 **11** would reside in the glands or the hair follicles is P.

13:30:33 **12** acnes; correct?

13:30:33 **13** **A.** That's all I know.

13:30:34 **14** **Q.** Okay. So if a patient was infected with

13:30:36 **15** anything besides P. acnes, the most likely source,

13:30:40 **16** from looking at this picture, Figure 4 on page 23,

13:30:44 **17** would be the skin surface; correct?

13:30:46 **18** **A.** That's my current hypothesis. I haven't

13:30:49 **19** seen a lot of studies. I can tell you about the

13:30:52 **20** sternal surgery for CABG with or without.

13:30:56 **21** **Q.** Well I just want to know what your opinion

13:30:58 **22** is.

13:30:58 **23** **A.** Yeah.

13:30:59 **24** **Q.** I don't need to know your studies.

13:31:00 **25** **A.** No. I'm just trying to say why I say what I

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13:31:02 **1** do or don't say what I do.

13:31:04 **2** **Q.** So -- So my understanding is is that the

13:31:19 **3** skin prep, such as the chlorhex with alcohol or the

13:31:24 **4** other skin prep, would be able to reach the -- all the

13:31:30 **5** bacteria that's on the skin part of the patient's

13:31:34 **6** flora except for *P. acnes*; correct?

13:31:36 **7** **A.** No, that's not true. They're ineffect --

13:31:39 **8** They could reach the area.

13:31:40 **9** **Q.** That was my question. They could reach it.

13:31:42 **10** **A.** But they don't -- they're not effective in

13:31:45 **11** eradicating all the flora there.

13:31:47 **12** **Q.** That wasn't my question. I said they could

13:31:47 **13** reach it.

13:31:47 **14** **A.** Yeah.

13:31:47 **15** **Q.** Correct?

13:31:47 **16** They can't reach *P. acnes* because it's

13:31:56 **17** underneath --

13:31:56 **18** (Interruption by the reporter.)

13:31:56 **19** **Q.** They can't reach *P. acnes* because it's below

13:31:59 **20** the skin; correct? The -- The skin prep.

13:32:01 **21** **A.** The currently used antiseptics don't

13:32:03 **22** reach --

13:32:03 **23** **Q.** Okay.

13:32:05 **24** **A.** -- down into the sebaceous glands.

13:32:08 **25** **Q.** Okay. But they could reach the skin

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13:32:10 **1** surface; correct?

13:32:10 **2** **A.** They reach the surface. It's put on the

13:32:12 **3** surface.

13:32:13 **4** **Q.** Okay. And therefore the question is how

13:32:16 **5** much of the bacteria do they eradicate, the

13:32:19 **6** effectiveness of the skin prep; correct?

13:32:22 **7** **A.** So say it again to make sure I got you.

13:32:25 **8** **Q.** It reaches all the bacteria on the skin

13:32:31 **9** surface, the skin prep, the issue is what percentage

13:32:35 **10** of the bacteria it kills.

13:32:38 **11** **A.** It's better to go back to the Darouiche

13:32:44 **12** study to say that if you start with a -- you know, an

13:32:48 **13** iodophor and compare it to chlorhexidine alcohol,

13:32:52 **14** chlorhexidine alcohol is a better, more effective skin

13:32:55 **15** prep than iodophor, reducing all surgical-site

13:33:02 **16** infections by 40 percent. Follow-up study with Tuul

13:33:06 **17** -- with Tuuli, thirt -- 45 percent, so it's very

13:33:10 **18** consistent.

13:33:12 **19** **Q.** And you would agree with me that all those

13:33:14 **20** studies you're referring to are looking at superficial

13:33:17 **21** wound infections.

13:33:18 **22** **A.** Well --

13:33:20 **23** **Q.** "Yes" or "no"?

13:33:21 **24** **A.** I'm trying to think whether there were any

13:33:23 **25** deep infections in those. I think Darouiche had some

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13:33:27 **1** deep infections. I don't --

13:33:28 **2** **Q.** Which article are you --

13:33:30 **3** **A.** -- I think --

13:33:30 **4** Yeah. I thought that the Darouiche study on

13:33:36 **5** -- his first study that I've quoted here on -- Let me

13:33:41 **6** see if I can find the date. Comparing -- So I think

13:33:46 **7** it's -- Well, let me just not guess. (Witness

13:33:46 **8** reviewing exhibit.)

13:33:53 **9** Wait. That'll be... So, you know, it's a

13:33:59 **10** New England Journal paper. Oh, I'm sorry. December

13:34:05 **11** 2010 *New England Journal of Medicine*.

13:34:08 **12** **Q.** And can you point me to the page you're

13:34:10 **13** referring to?

13:34:12 **14** **A.** I just remembered, so let me try to find the

13:34:14 **15** page I'm referring to.

13:34:15 **16** MR. COREY GORDON: In his report, or in the

13:34:17 **17** article?

13:34:17 **18** MR. ASSAAD: In his report.

13:34:19 **19** **A.** Yeah, it's in my report. Okay.

13:34:22 **20** So it'll be probably in the microbiome

13:34:30 **21** section.

13:34:30 **22** **Q.** Would it be page 25?

13:34:32 **23** **A.** Let's look. (Witness reviewing exhibit.)

13:34:41 **24** Yes. And I thought he talked about both.

13:34:51 **25** My recollection he talks about some deep as well as

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13:34:54 **1** superficial.

13:34:57 **2** **Q.** Are you aware that the surgeries that he

13:34:59 **3** looked at were colorectal, small intestinal,

13:35:06 **4** gastroesophageal, biliary, thoratic, gynecologic or

13:35:11 **5** urolo -- urologic operations?

13:35:12 **6** **A.** Yes.

13:35:13 **7** **Q.** None of them had to do with total hip or --

13:35:13 **8** **A.** That's --

13:35:15 **9** **Q.** -- total knee?

13:35:15 **10** **A.** -- true.

13:35:16 **11** **Q.** None of them had to do with implants;

13:35:18 **12** correct?

13:35:18 **13** MR. COREY GORDON: Wait. Wait until he

13:35:18 **14** asks his --

13:35:20 **15** **A.** That's true.

13:35:20 **16** **Q.** Okay. So can you -- can you identify me

13:35:24 **17** today a study that shows that using a chlorhex with

13:35:32 **18** alcohol reduces the incident of a periprosthetic joint

13:35:37 **19** infection?

13:35:44 **20** **A.** I don't think a study's been done just on

13:35:46 **21** the joints. I'm trying to remember.

13:35:48 **22** **Q.** So sitting here today there is no evidence

13:35:51 **23** that a skin prep such as chlorhex with alcohol reduces

13:36:05 **24** the incident of surgical -- of periprosthetic joint

13:36:10 **25** infections; correct?

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13:36:10 **1** **A.** Well I would say there's no study out there,  
 13:36:12 **2** but if you take skin, the -- what we're really talking  
 13:36:17 **3** about is controlling the microbiome. And if you said  
 13:36:20 **4** to me today, I've got to get a hip replacement, I  
 13:36:25 **5** would tell you chlorhexidine alcohol, just as Dr. Reed  
 13:36:28 **6** did in his study, after awhile.  
 13:37:35 **7** **Q.** You would agree with me that if -- if a --  
 13:37:43 **8** Strike that.  
 13:37:44 **9** If the bacteria comes from the patient's  
 13:38:08 **10** skin -- Let's take out P. acnes, okay? We could agree  
 13:38:12 **11** that P. acnes is a very unlikely cause of a infection  
 13:38:16 **12** for a total hip or total knee arthroplasty; correct?  
 13:38:19 **13** **A.** Yes.  
 13:38:19 **14** **Q.** Okay. Let's just assume all my questions is  
 13:38:22 **15** excluding P. acnes when I talk about bacteria going  
 13:38:24 **16** forward. Correct? Do you understand that?  
 13:38:27 **17** **A.** If you want to make an assumption, yes.  
 13:38:30 **18** **Q.** Yes. How does the bacteria get from the  
 13:38:44 **19** skin to the periprosthetic joint to cause an infection  
 13:38:51 **20** during the operation? If you know.  
 13:38:55 **21** **A.** Well I have to go back to P. acnes, because  
 13:38:57 **22** it's the only study that shows that it's already there  
 13:39:03 **23** at the time of the incision, so it -- it's there. The  
 13:39:06 **24** other study I'd point to would be Tammelin's study of  
 13:39:10 **25** CABGs and Staph epi where he tried to do

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13:40:21 **1** they get from the flora to the wound. And I've said  
 13:40:25 **2** that in my report.  
 13:40:28 **3** **Q.** Okay. So you have no opinion of how the  
 13:40:31 **4** bacteria get from the flora, patient's flora into the  
 13:40:36 **5** wound; correct?  
 13:40:36 **6** **A.** Not in detail. I just know that they're  
 13:40:39 **7** already present at the time of the incision.  
 13:40:41 **8** **Q.** Now do they jump from the patient's skin  
 13:40:46 **9** right into the -- into the joint, or would they go  
 13:40:49 **10** through the fascia and the mu -- and the muscle?  
 13:40:51 **11** **A.** I don't know.  
 13:40:52 **12** **Q.** Okay.  
 13:40:52 **13** MR. COREY GORDON: Wait for him to --  
 13:40:54 **14** THE WITNESS: I'm sorry.  
 13:40:54 **15** MR. COREY GORDON: You gotta wait for him  
 13:40:55 **16** to finish the question.  
 13:40:56 **17** THE WITNESS: Yeah. Apologize.  
 13:40:57 **18** **Q.** Okay. So --  
 13:40:58 **19** And you're aware that in many total hip and  
 13:41:00 **20** total knee arthroplasties, if not all, that patients  
 13:41:07 **21** are given a prophylactic dose of antibiotics.  
 13:41:12 **22** **A.** Patients are given antibiotics, yes,  
 13:41:15 **23** preoperatively, perioperatively.  
 13:41:17 **24** **Q.** Perioperatively. Actually before even  
 13:41:19 **25** incision.

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13:39:14 **1** fingerprinting to say if I look at the air, if I look  
 13:39:17 **2** at the surgeons and if I culture the patient's legs  
 13:39:21 **3** where the graft is for the CABG, or if I culture the  
 13:39:25 **4** sternum, he could find the only match that -- with any  
 13:39:30 **5** high numbers in the sternum for Staph epi. These are  
 13:39:34 **6** heart studies, but it comes back to what I've said  
 13:39:37 **7** earlier. If you have an organism, a marker organism  
 13:39:40 **8** and you can follow it, so he's able to do a  
 13:39:42 **9** fingerprint on those Staph epi on the sternum. I  
 13:39:46 **10** think I --  
 13:39:47 **11** **Q.** Well I'm asking --  
 13:39:47 **12** I mean, my understanding is, and it's a very  
 13:39:49 **13** limited understanding, that bacteria either need to be  
 13:39:52 **14** transferred by direct contact or they can be  
 13:39:55 **15** aerosolized. They don't have legs; correct? They  
 13:39:58 **16** don't move.  
 13:39:59 **17** **A.** They can move, on the surface.  
 13:40:00 **18** **Q.** How do they move?  
 13:40:02 **19** **A.** I don't know how they move, but, you know,  
 13:40:04 **20** they're -- if there -- if there is an incision made  
 13:40:08 **21** across a group of bacteria, then why would you not  
 13:40:12 **22** think that they're actually going to fall into the  
 13:40:16 **23** wound? That's a hypothesis that I have --  
 13:40:18 **24** **Q.** Is there any evidence --  
 13:40:19 **25** **A.** -- but nobody -- nobody knows exactly how

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13:41:19 **1** **A.** Yes.  
 13:41:20 **2** **Q.** Okay. And in fact that has shown to reduce  
 13:41:26 **3** the incident of superficial wound infection for total  
 13:41:31 **4** hip and total knee arthroplasty; correct?  
 13:41:33 **5** **A.** More than that. I mean, if I go back to  
 13:41:35 **6** Lidwell's study, he -- when he looked at the patients  
 13:41:39 **7** who had perioperative antibiotics, their deep-joint  
 13:41:47 **8** infection rate was four times greater in the group  
 13:41:49 **9** that didn't have antibiotics.  
 13:41:50 **10** MR. COREY GORDON: You said "greater."  
 13:41:53 **11** THE WITNESS: I'm sorry.  
 13:41:54 **12** **A.** The people who didn't get perioperative  
 13:41:57 **13** antibiotics had a four times risk of the prosthetic  
 13:42:03 **14** joint infections compared to the ones who did.  
 13:42:05 **15** **Q.** So we agree that perioperative antibiotics  
 13:42:07 **16** decreases the risk of periprosthetic joint infections?  
 13:42:09 **17** **A.** Yes.  
 13:42:10 **18** **Q.** Okay. You do agree with me that the  
 13:43:23 **19** bacteria has to get to the -- to the joint area to  
 13:43:26 **20** cause a periprosthetic joint infection  
 13:43:29 **21** perioperatively; correct?  
 13:43:30 **22** **A.** Bacteria are necessary, not sufficient, yes.  
 13:43:33 **23** **Q.** Okay. And when we say "get to the joint  
 13:43:37 **24** area," we're getting to the prosthesis during the  
 13:43:41 **25** total hip or total knee arthroplasty; correct?

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13:43:43 **1** MR. COREY GORDON: Object to the form of  
 13:43:45 **2** the question.  
 13:43:46 **3** **A.** I don't know exactly, you know, does it  
 13:43:48 **4** start above and then get moved to the joint, but that  
 13:43:53 **5** could happen, yeah.  
 13:43:54 **6** **Q.** But for the biofilm to form it has to be in  
 13:43:56 **7** the prosthesis.  
 13:43:57 **8** **A.** Yeah, it has to be on a foreign body. Well  
 13:44:01 **9** I think in --  
 13:44:02 **10** **Q.** Most likely.  
 13:44:03 **11** **A.** I think it's more likely, you know. In some  
 13:44:06 **12** chronic wounds they've shown biofilm. You probably  
 13:44:08 **13** know that.  
 13:44:09 **14** **Q.** But with respect to total hip and total knee  
 13:44:11 **15** --  
 13:44:11 **16** **A.** Yeah.  
 13:44:11 **17** **Q.** -- the bacteria has to get to the prosthesis  
 13:44:13 **18** to form biofilm; correct?  
 13:44:14 **19** **A.** I think that's right.  
 13:44:16 **20** **Q.** Okay. So during the operation it's your  
 13:44:27 **21** opinion that a bacteria on the patient's skin gets to  
 13:44:37 **22** the prosthesis at some point in time to cause an  
 13:44:40 **23** infection -- to cause a periprosthetic joint  
 13:44:42 **24** infection.  
 13:44:43 **25** MR. COREY GORDON: Object to the form of  
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13:44:44 **1** the question.  
 13:44:47 **2** **A.** So I think the source of al -- of almost all  
 13:44:51 **3** infections, including periprosthetic joint infections  
 13:44:57 **4** are the patient's flora, and again the skin would be  
 13:44:59 **5** the site primarily.  
 13:45:03 **6** And I'm not sure that I understood the  
 13:45:05 **7** complex question.  
 13:45:06 **8** **Q.** Well the bacteria that's on the patient's  
 13:45:08 **9** flora has to reach the -- the --  
 13:45:11 **10** **A.** Has to get to the area --  
 13:45:13 **11** **Q.** -- the prosthesis --  
 13:45:13 **12** **A.** I'm sorry.  
 13:45:14 **13** **Q.** -- has to get to the prosthesis during the  
 13:45:17 **14** operation.  
 13:45:17 **15** **A.** Yes.  
 13:45:18 **16** **Q.** Okay. Now when we talk about where the  
 13:45:22 **17** bacteria's coming from, are you talking about the skin  
 13:45:24 **18** where there -- it's been prepped and where the  
 13:45:28 **19** surgical site is, or are we talking about the fa --  
 13:45:33 **20** the bacteria that's on the face of the patient that's  
 13:45:35 **21** underneath the drape?  
 13:45:36 **22** **A.** I think, my -- my feeling today, is that  
 13:45:40 **23** it's primarily in the skin near the incision, and  
 13:45:44 **24** again the P. acnes studies would actually demonstrate  
 13:45:50 **25** that.

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13:45:51 **1** **Q.** Okay. Now with respect to people that are  
 13:45:53 **2** carriers for MRSA or MSSA in their nose, okay, the --  
 13:46:03 **3** What's the correct word? What is the  
 13:46:05 **4** correct word for that?  
 13:46:07 **5** **A.** You talking about a nasal?  
 13:46:08 **6** **Q.** Yeah.  
 13:46:09 **7** MR. COREY GORDON: Nares?  
 13:46:11 **8** **A.** Nares?  
 13:46:11 **9** **Q.** Yeah, the nares.  
 13:46:12 **10** And you've talked about that in your report;  
 13:46:14 **11** correct?  
 13:46:14 **12** **A.** Yeah.  
 13:46:14 **13** **Q.** They're carriers; correct?  
 13:46:16 **14** You're not offering the opinion that the  
 13:46:19 **15** bacteria in the nose is actually reaching the surgical  
 13:46:25 **16** site and the prosthesis and causing an infection; are  
 13:46:27 **17** you?  
 13:46:28 **18** MR. COREY GORDON: Object to the form of  
 13:46:29 **19** the question.  
 13:46:29 **20** **A.** What I think happens is that if you're a  
 13:46:32 **21** carrier in the nose you're frequently a carrier  
 13:46:37 **22** elsewhere on the body; it can be in the hands, as  
 13:46:40 **23** shown by Reagan, et al. If you want to look at Mermel  
 13:46:46 **24** and colleagues, it's carried in the groin and the  
 13:46:50 **25** perineum and axilla as well.  
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13:46:54 **1** So if you look at all the people who are  
 13:46:55 **2** carriers of Staph, the most sensitive spot is going to  
 13:47:02 **3** be in the nose. We also know that there are carriers  
 13:47:08 **4** of, you mentioned MRSA, 15, 20 percent carry it only  
 13:47:13 **5** in the throat. And again I think that the nose is a  
 13:47:19 **6** marker for the increased likelihood of carriage in  
 13:47:23 **7** other places of the body.  
 13:47:25 **8** **Q.** What's the likelihood that if you have MRSA  
 13:47:28 **9** or MSSA it's going to be on your knee?  
 13:47:30 **10** **A.** The knee? I don't know. I haven't seen  
 13:47:32 **11** data.  
 13:47:33 **12** **Q.** There's no evidence that -- that the fact  
 13:47:34 **13** that you're positive in your nose or even throat,  
 13:47:36 **14** means that you have MSSA or MRSA on your knee;  
 13:47:40 **15** correct?  
 13:47:40 **16** **A.** No. But if it's the groin and you're  
 13:47:42 **17** talking about hip, for example, or a knee, is it  
 13:47:47 **18** possible? Could it happen? I don't -- can't cite a  
 13:47:49 **19** paper.  
 13:47:50 **20** **Q.** But the groin is isolated during the  
 13:47:53 **21** surgery; correct?  
 13:47:54 **22** **A.** It is isolated. I don't know how effective  
 13:47:56 **23** that is.  
 13:47:57 **24** **Q.** Okay. Do you know what -- whether or not  
 13:47:59 **25** the drapes are permeable or impermeable in an

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13:48:03 **1** operating room?

13:48:03 **2** **A.** No, I don't. I haven't looked at that.

13:48:05 **3** **Q.** Okay. But you're not saying, just so I

13:48:06 **4** understand you, that if you have MRSA in the nose or

13:48:12 **5** MSSA in the nose, that as the patient breathes out

13:48:15 **6** that bacteria is coming out of your nose and infecting

13:48:19 **7** the prosthesis.

13:48:20 **8** **A.** I don't know how if --

13:48:21 **9** Let's say, imagine in a scenario that we're

13:48:25 **10** just making up to have the discussion, it's a carrier

13:48:30 **11** only in the nose. How it gets from the nose to the

13:48:33 **12** wound, I don't know completely. Is it possible that

13:48:37 **13** that could happen? Maybe. I don't know. There are

13:48:41 **14** no studies that show the organism in the nose can't

13:48:44 **15** move, can't be blown out.

13:48:46 **16** **Q.** Okay. You do understand that in a total hip

13:48:51 **17** or total knee arthroplasty there is a huge drape that

13:48:53 **18** goes three feet above -- two to three feet above the

13:48:57 **19** patient; correct?

13:48:58 **20** **A.** Yes.

13:48:59 **21** **Q.** Okay. That separates the head of the

13:49:00 **22** patient --

13:49:01 **23** **A.** That's right.

13:49:02 **24** **Q.** -- from where the surgical site is; correct?

13:49:04 **25** **A.** Yes. Sorry.

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13:49:08 **1** **Q.** And you agree with me that --

13:49:17 **2** So are you saying that it's possible that

13:49:21 **3** the bacteria could come out of the nose and over the

13:49:26 **4** drape or around the drape and into the surgical site?

13:49:30 **5** **A.** I don't know.

13:49:31 **6** **Q.** Okay.

13:49:31 **7** **A.** I mean, I... I know that people who have

13:49:35 **8** colds certainly disperse when they sneeze or cough or

13:49:40 **9** something, with Staph.

13:49:40 **10** **Q.** But if the ventilation is doing what it's

13:49:43 **11** supposed to be doing, it would push the bacteria down;

13:49:46 **12** correct?

13:49:47 **13** **A.** I think so.

13:49:48 **14** **Q.** Okay. Unless there was something else out

13:49:50 **15** there that was causing the bacteria to go up; correct?

13:49:54 **16** **A.** I think so.

13:50:26 **17** MR. ASSAAD: Let's take a break.

13:50:27 **18** THE REPORTER: Off the record, please.

13:50:28 **19** (Recess taken from 1:50 to 2:05 p.m.)

14:05:17 **20** THE WITNESS: Can I make just a -- you

14:05:18 **21** asked -- said earlier you didn't mind, Mr. Assaad, if

14:05:22 **22** I made changes, and just on break looked up the

14:05:26 **23** microbiome of the sebaceous glands, and in fact I can

14:05:29 **24** point to a reference for you, General Clinical Micro

14:05:33 **25** 1984, Leeming. And in addition to P. acnes,

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14:05:37 **1** Propionibacterium, both Staphylococcus, they didn't

14:05:43 **2** differentiate epi and aureus in the brief summ --

14:05:43 **3** (Interruption by the reporter.)

14:05:47 **4** THE WITNESS: -- epi from aureus, and also

14:05:47 **5** Pityrosporum. So I want to add that to my statement,

14:05:51 **6** and thank you for letting me amend.

14:05:51 **7** BY MR. ASSAAD:

14:05:54 **8** **Q.** Do you know how prevalent the Staph --

14:05:56 **9** **A.** No. I have to do a lot more looking at it,

14:05:58 **10** but --

14:05:59 **11** THE WITNESS: I'm sorry.

14:05:59 **12** MR. COREY GORDON: Let him --

14:06:00 **13** **Q.** So sitting here today, you don't know, like,

14:06:02 **14** what percentage or -- or where in the human biome they

14:06:08 **15** did the sampling.

14:06:09 **16** **A.** They -- They sampled the sebaceous glands.

14:06:11 **17** **Q.** But where?

14:06:12 **18** **A.** I don't know.

14:06:12 **19** **Q.** Could it have been on the shoulder or back?

14:06:15 **20** **A.** Well you're asking me questions I don't

14:06:16 **21** know, --

14:06:16 **22** **Q.** Okay.

14:06:17 **23** **A.** -- but I gave you a reference and wanted to

14:06:18 **24** clear up the fact that Staphylococci can live there.

14:06:22 **25** **Q.** What's the name of the reference?

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14:06:24 **1** **A.** General Clinical Micro, 1984, Lemming,

14:06:28 **2** L-E-M-M-I-N-G. I don't have the first initial.

14:06:31 **3** **Q.** Lemming, L-E-M-M-I-N-G?

14:06:33 **4** **A.** Yeah.

14:06:34 **5** **Q.** Okay. Do you know who doctor --

14:06:36 **6** MR. GOSS: It's actually L-E-E-M-I-N-G.

14:06:39 **7** THE WITNESS: Oh, I'm sorry. Did I get

14:06:41 **8** that wrong?

14:06:41 **9** **Q.** And you just looked that up where?

14:06:43 **10** **A.** Yeah. Just now.

14:06:44 **11** **Q.** On your phone?

14:06:45 **12** **A.** I used his phone.

14:06:46 **13** **Q.** Okay. You're pointing to Peter Goss?

14:06:49 **14** **A.** Yes, Peter Goss.

14:06:50 **15** **Q.** Did he provide the article to you?

14:06:51 **16** **A.** He did.

14:06:51 **17** **Q.** Okay. So you didn't look it up, he just

14:06:53 **18** gave --

14:06:53 **19** **A.** I did. We were both looking things up just

14:06:55 **20** to check.

14:06:56 **21** **Q.** Well who pulled up the article; was it

14:06:58 **22** you --

14:06:58 **23** **A.** He did.

14:06:58 **24** **Q.** -- or Peter Goss?

14:07:00 **25** **A.** He did. Peter did.

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14:07:01 **1** **Q.** Okay. So my understanding is that while I'm  
 14:07:05 **2** asking you questions Peter Goss is doing some research  
 14:07:07 **3** for you during this deposition?  
 14:07:10 **4** **A.** Yeah, I guess you could say that.  
 14:07:12 **5** MR. GOSS: Object to form.  
 14:07:13 **6** **A.** He just checked a reference for me. I was  
 14:07:16 **7** trying -- We were both trying to find stuff.  
 14:07:18 **8** **Q.** All right.  
 14:07:18 **9** Do you know who Dr. Reed is?  
 14:07:20 **10** **A.** Doctor who?  
 14:07:20 **11** **Q.** Reed. Michael Reed?  
 14:07:23 **12** **A.** I don't know him, but I know who he is,  
 14:07:25 **13** yeah. He's --  
 14:07:26 **14** **Q.** Okay. Are you aware he's doing a pilot  
 14:07:27 **15** study for 3M right now?  
 14:07:29 **16** MR. COREY GORDON: Object to the form of  
 14:07:31 **17** the question.  
 14:07:31 **18** **A.** I think that came up earlier, and I think I  
 14:07:33 **19** had heard that it might be, but I don't have any  
 14:07:35 **20** evidence or, let's say, direct knowledge of that.  
 14:07:38 **21** **Q.** Do you know Dr. Harper?  
 14:07:40 **22** **A.** No.  
 14:07:41 **23** **Q.** Have you read any of his literature?  
 14:07:42 **24** **A.** Don't think so.  
 14:07:43 **25** **Q.** Okay. So have you read Dr. Reed's  
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14:07:54 **1** deposition?  
 14:07:56 **2** **A.** I think so, yeah.  
 14:07:58 **3** **Q.** Have you read Dr. McGovern's deposition?  
 14:08:04 **4** **A.** Yes.  
 14:08:04 **5** **Q.** Have you read Dr. Legg's deposition?  
 14:08:06 **6** **A.** I think so, yeah.  
 14:08:07 **7** **Q.** Have you read Dr. Nachtsheim's deposition?  
 14:08:10 **8** **A.** No.  
 14:08:10 **9** **Q.** Have you read Dr. --  
 14:08:12 **10** **A.** I don't remember. I may have, but I don't  
 14:08:13 **11** remember.  
 14:08:14 **12** **Q.** Have you read Dr. Legg's deposition?  
 14:08:17 **13** **A.** I think so.  
 14:08:17 **14** **Q.** So -- And you're aware, from reading  
 14:08:33 **15** articles by Dr. Reed, that he has written articles  
 14:08:37 **16** critical of the Bair Hugger safety; correct?  
 14:08:40 **17** MR. COREY GORDON: Object to the form of  
 14:08:42 **18** the question.  
 14:08:44 **19** **A.** I'm not sure which articles you're referring  
 14:08:46 **20** to.  
 14:08:46 **21** **Q.** Well McGovern was -- Dr. Reed was on that;  
 14:08:49 **22** correct?  
 14:08:49 **23** **A.** Yes.  
 14:08:50 **24** **Q.** And you're aware that actually Dr. McGovern  
 14:08:52 **25** would be -- was more -- or Dr. Reed was more senior  
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14:08:54 **1** than Dr. McGovern at the time.  
 14:08:56 **2** **A.** That was my understanding.  
 14:08:57 **3** **Q.** He was more of the advisor and overlooking  
 14:09:00 **4** the whole study; correct?  
 14:09:01 **5** **A.** Yeah.  
 14:09:01 **6** **Q.** Okay. And you know that --  
 14:09:03 **7** Are you aware that at one time Dr. Reed was  
 14:09:05 **8** in Minneapolis and wanted to talk to the people at 3M  
 14:09:07 **9** to discuss his findings?  
 14:09:09 **10** MR. COREY GORDON: Object to the form of  
 14:09:10 **11** the question, and assumes facts not in evidence.  
 14:09:11 **12** **A.** I had heard that possibility, but I don't  
 14:09:14 **13** know anything about that.  
 14:09:16 **14** **Q.** And are you aware that 3M didn't want to  
 14:09:18 **15** talk to him?  
 14:09:19 **16** MR. COREY GORDON: Same objections.  
 14:09:20 **17** **A.** I don't know that.  
 14:09:30 **18** **Q.** Okay. Well I'm going to read you what the  
 14:09:32 **19** objective of the study was, and tell me if it's...  
 14:09:44 **20** MR. COREY GORDON: You talking about  
 14:09:45 **21** McGovern?  
 14:09:45 **22** MR. ASSAAD: No. The pilot study.  
 14:09:47 **23** MR. COREY GORDON: Oh.  
 14:10:10 **24** **Q.** Strike that.  
 14:10:10 **25** Are you aware that 3M is funding a pilot  
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14:10:13 **1** study in which they are assessing the risk of  
 14:10:19 **2** postoperative orthopedic implant infection which may  
 14:10:23 **3** be influenced by the choice of the intraoperative  
 14:10:26 **4** warming technology?  
 14:10:27 **5** **A.** I don't think I know that, no.  
 14:10:28 **6** **Q.** Okay. Would that be information helpful to  
 14:10:32 **7** you to see what the -- the data in that study, to  
 14:10:35 **8** formulate your opinions of whether or not the Bair  
 14:10:38 **9** Hugger has an effect on periprosthetic joint  
 14:10:41 **10** infections?  
 14:10:43 **11** **A.** So I don't --  
 14:10:44 **12** What was the hypothesis of the study? And  
 14:10:46 **13** you're asking me to --  
 14:10:46 **14** **Q.** The hypothesis is this: We postulate that  
 14:10:49 **15** the risk of postoperative orthopedic implant infection  
 14:10:52 **16** may be influenced by the choice of intraoperative  
 14:10:56 **17** warming technology. We plan to investigate this  
 14:10:58 **18** through a multicenter superiority trial comparing  
 14:11:04 **19** forced-air warming and resistive warming in adults  
 14:11:08 **20** undergoing hemiarthroplasty following hip fracture.  
 14:11:13 **21** Health/economic evaluations will form the secondary  
 14:11:16 **22** aim of this study.  
 14:11:17 **23** Are you aware that 3M is provi -- funding a  
 14:11:18 **24** study?  
 14:11:19 **25** **A.** No.  
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14:11:20 **1** **Q.** Is that the type of study that might be  
 14:11:22 **2** helpful in determining whether or not forced-air  
 14:11:26 **3** warming has an effect on periprosthetic joint  
 14:11:29 **4** infection?  
 14:11:29 **5** **MR. COREY GORDON:** Object to the form of  
 14:11:30 **6** the question.  
 14:11:30 **7** **A.** Hard to know, but I love information. So if  
 14:11:33 **8** you tell me there's more information out there, I'd  
 14:11:36 **9** love to see it.  
 14:11:38 **10** **Q.** Do you think a company should suppress  
 14:11:42 **11** research regarding the safety of a device if there is  
 14:11:45 **12** liti -- ongoing litigation regarding that device?  
 14:11:48 **13** **A.** So hypothetically if there's ongoing  
 14:11:51 **14** litigation a company tries to suppress?  
 14:11:54 **15** **Q.** Research.  
 14:11:56 **16** **A.** And this is hypothetical?  
 14:11:57 **17** **Q.** Yes. Hypothetically.  
 14:11:59 **18** **A.** Yeah.  
 14:12:00 **19** **Q.** You think that's okay?  
 14:12:02 **20** **A.** I don't think --  
 14:12:02 **21** **Q.** Regarding the safety of a device.  
 14:12:02 **22** **A.** Huh?  
 14:12:02 **23** **Q.** Regarding the safety of a device.  
 14:12:05 **24** **A.** Regarding the safety, hiding data?  
 14:12:06 **25** **Q.** Or -- or not -- or not --

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14:12:09 **1** Or suppressing research.  
 14:12:10 **2** **A.** Oh, suppressing research. I don't know the  
 14:12:14 **3** details of what you're getting at here.  
 14:12:14 **4** **Q.** Okay.  
 14:12:16 **5** **A.** You're trying to say somebody suppressed  
 14:12:19 **6** research maybe.  
 14:12:20 **7** **Q.** Well hypothetically speaking, if a -- a  
 14:12:23 **8** decision was made by 3M not to perform any research  
 14:12:27 **9** regarding the safety and efficacy of the Bair Hugger  
 14:12:29 **10** during this litigation, would you consider that being  
 14:12:34 **11** responsible by a corporation?  
 14:12:36 **12** **A.** Well I think the question is really do they  
 14:12:39 **13** have information already on the safety and efficacy of  
 14:12:42 **14** the Bair Hugger, and will this add more and they will  
 14:12:50 **15** need it. I don't know. I'd like to see the whole  
 14:12:53 **16** thing laid out and what the circumstances are for or  
 14:12:57 **17** not.  
 14:13:18 **18** **Q.** Can you identify one study that indicates  
 14:13:22 **19** that the Bair Hugger does not cause periprosthetic  
 14:13:26 **20** joint infections?  
 14:13:30 **21** **MR. COREY GORDON:** Object to the form of  
 14:13:31 **22** the question.  
 14:13:38 **23** **A.** "Does not cause."  
 14:13:55 **24** So I've put in my report, you know, I think  
 14:13:57 **25** everything from the two clinical trials, but

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14:14:02 **1** periprosthetic. Certainly warming, I showed you the  
 14:14:10 **2** study, I guess, from Holland.  
 14:14:14 **3** **Q.** I'm just ask --  
 14:14:14 **4** I'm asking one question.  
 14:14:15 **5** **A.** Yeah.  
 14:14:15 **6** **Q.** Just identify a study that indicates that  
 14:14:19 **7** forced-air warming or the Bair Hugger does not cause a  
 14:14:23 **8** periprosthetic joint infection.  
 14:14:25 **9** **MR. COREY GORDON:** Object to the form of  
 14:14:25 **10** the question.  
 14:14:27 **11** **A.** Yeah. I mean, I can't come up with an  
 14:14:29 **12** answer for that right now.  
 14:14:31 **13** **Q.** Okay. And are you awa --  
 14:14:36 **14** You've read Dr. Kurz's deposition; correct?  
 14:14:39 **15** **A.** I have.  
 14:14:39 **16** **Q.** You're aware that she told 3M that her 1996  
 14:14:42 **17** study only applies to colorectal surgeries.  
 14:14:46 **18** **MR. COREY GORDON:** Object to the form of  
 14:14:47 **19** the question, misstates the evidence, assumes facts  
 14:14:49 **20** not in evidence.  
 14:14:49 **21** **A.** Don't remember what she told 3M, but that's  
 14:14:52 **22** -- that's the study that she did was colorectal  
 14:14:55 **23** patients.  
 14:14:55 **24** **Q.** And it only applied to colorectal patients;  
 14:14:58 **25** correct?

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14:14:58 **1** **MR. COREY GORDON:** Object to the form of  
 14:14:59 **2** the question.  
 14:14:59 **3** **A.** I don't know that she said that but, you  
 14:15:01 **4** know, if she said I'm not sure that that would be so.  
 14:15:03 **5** **Q.** And you're aware that Dr. Augustine and Dr.  
 14:15:07 **6** Sessler used that information and marketed the Bair  
 14:15:10 **7** Hugger across the world to increase sales.  
 14:15:12 **8** **MR. COREY GORDON:** Object to the form of  
 14:15:14 **9** the question, and assumes facts not in evidence.  
 14:15:16 **10** **A.** I'm not aware that they did that, but if  
 14:15:19 **11** that was the best data, and again if I --  
 14:15:22 **12** **Q.** Well you love data, don't you?  
 14:15:24 **13** **A.** I love data. That's why I'm saying it, for  
 14:15:27 **14** you. If I -- You know, if I said to you, look, here's  
 14:15:29 **15** a device that cuts down your infections by two thirds,  
 14:15:35 **16** you're saying, well I'm getting a little different  
 14:15:37 **17** operation than that one, I would still advise you this  
 14:15:42 **18** is the best data.  
 14:15:43 **19** **Q.** Where do you get that it cuts down by two  
 14:15:46 **20** thirds?  
 14:15:46 **21** **A.** You mean the Kurz study?  
 14:15:47 **22** **Q.** Yeah.  
 14:15:48 **23** **A.** Yes, 15 percent in five, I'm off by maybe a  
 14:15:51 **24** little bit.  
 14:15:51 **25** **Q.** Okay. And -- And you heard her say recently

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14:15:53 **1** that -- that that study would not be scientifically  
 14:15:57 **2** valid today; correct?  
 14:16:00 **3** MR. COREY GORDON: Object to the form of  
 14:16:00 **4** the question and misstates the testimony.  
 14:16:01 **5** **A.** I actually read the whole response that she  
 14:16:04 **6** said, and then later on she was questioned. Did you  
 14:16:09 **7** -- And she said, did I really say that? Because I --  
 14:16:13 **8** You know, then she went on to say, I would need a  
 14:16:16 **9** bigger study because, you know, so many things have  
 14:16:20 **10** been done and everybody has to have a warmer. And the  
 14:16:22 **11** second thing, she said it may not be two thirds, she  
 14:16:26 **12** said 30 percent reduction is probably what I would see  
 14:16:29 **13** today.  
 14:16:31 **14** **Q.** In colo --  
 14:16:32 **15** **A.** Still humongous, she said.  
 14:16:34 **16** **Q.** Do you think there's a difference between  
 14:16:36 **17** colorectal surgery and -- and a knee surgery?  
 14:16:38 **18** MR. COREY GORDON: Object to the form of  
 14:16:40 **19** the question.  
 14:16:40 **20** **A.** Of course there's a difference, I mean. But  
 14:16:42 **21** if you said does the skin react differently, you know,  
 14:16:47 **22** or the microbiome, the body's physiology whether a  
 14:16:51 **23** knife is on the abdomen or on a hip, I'm not sure.  
 14:16:55 **24** **Q.** You think, sitting here today, that the  
 14:16:57 **25** primary source of the bacteria in a colorectal surgery  
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14:17:02 **1** which has a high incidence of infection, is the skin  
 14:17:05 **2** and not the colon?  
 14:17:07 **3** **A.** Well they had both, actually. When you look  
 14:17:09 **4** at the organisms, if you found a Staph aureus, which  
 14:17:13 **5** they certainly found, that was part of the finding.  
 14:17:16 **6** That's not an organism commonly in the GI tract. Can  
 14:17:20 **7** be. They also found enterococcus, they had one  
 14:17:24 **8** candida. So they certainly had a mixture of what was  
 14:17:26 **9** in the GI tract and what was on the skin. So if  
 14:17:29 **10** that's what you're asking, yes.  
 14:17:30 **11** **Q.** I mean you agree with me that colorectal  
 14:17:32 **12** surgery has a high incidence of infection because it's  
 14:17:34 **13** a -- whether it's a clean contaminated or a  
 14:17:37 **14** contaminated surgery; correct?  
 14:17:38 **15** **A.** That is correct.  
 14:17:39 **16** **Q.** It's a much different surgery than a total  
 14:17:41 **17** hip and total knee, --  
 14:17:42 **18** **A.** It's --  
 14:17:42 **19** **Q.** -- which is a clean surgery.  
 14:17:45 **20** **A.** It's different from those operations, yeah.  
 14:17:47 **21** But what I'm saying --  
 14:17:49 **22** **Q.** Well that's all I -- that's all I need.  
 14:17:50 **23** **A.** Okay.  
 14:17:51 **24** **Q.** So, I mean, we agree that total hip and  
 14:17:53 **25** total knee are considered clean surgeries.  
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14:17:55 **1** **A.** Yes.  
 14:17:55 **2** **Q.** Okay. With respect to the Leeming --  
 14:19:18 **3** Leeming article that we just referenced, are you aware  
 14:19:21 **4** that the biopsies of the skin were taken on the back?  
 14:19:24 **5** **A.** No. I did -- you know, we -- this was a  
 14:19:27 **6** very quick look and wanted to see the punch line.  
 14:19:30 **7** **Q.** So you would agree with me that just assume  
 14:19:31 **8** that I'm reading this correctly, that the samples were  
 14:19:34 **9** taken on the back skin -- okay, the back -- the back  
 14:19:37 **10** skin, that that doesn't indicate that there's data  
 14:19:40 **11** that these types of bacteria are on the glands in the  
 14:19:45 **12** knee or hip; correct?  
 14:19:47 **13** **A.** If that's true, then that's what the study  
 14:19:50 **14** would say.  
 14:19:50 **15** **Q.** Okay.  
 14:19:51 **16** **A.** I'm not questioning your...  
 14:19:54 **17** **Q.** All right.  
 14:19:54 **18** (Mr. Ben Gordon departed the proceedings.)  
 14:20:45 **19** **Q.** And as an expert that's doing a literature  
 14:20:48 **20** review, the best evidence to rely upon are going to be  
 14:20:54 **21** peer-reviewed studies; correct?  
 14:20:56 **22** MR. COREY GORDON: Object to the form of  
 14:20:58 **23** the question.  
 14:20:58 **24** **A.** In general I think that's better.  
 14:21:01 **25** **Q.** Because there are many studies that are  
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14:21:03 **1** performed, even internally at 3M, that they might just  
 14:21:07 **2** be trying to determine which is the best way to study  
 14:21:12 **3** and might try different types of techniques; correct?  
 14:21:17 **4** **A.** Yeah, I don't know what 3M's doing in trying  
 14:21:17 **5** to come up with techniques.  
 14:21:18 **6** **Q.** But, for example, let's talk about, you  
 14:21:26 **7** know, culturing glands, okay? Let's see what grows in  
 14:21:29 **8** glands. There might be some techniques that work to  
 14:21:31 **9** determine whether or not there's bacteria in the  
 14:21:33 **10** glands, and there might be other techniques that might  
 14:21:35 **11** not work; correct?  
 14:21:37 **12** MR. COREY GORDON: Object to the form of  
 14:21:37 **13** the question.  
 14:21:37 **14** **A.** Hypothetically, yes.  
 14:21:39 **15** **Q.** And as a scientist you're trying to  
 14:21:41 **16** determine, you know, if you want to collect data,  
 14:21:44 **17** which is the best way to collect data; correct?  
 14:21:49 **18** **A.** I'd like to know the best way always.  
 14:21:51 **19** **Q.** Okay. And sometimes you might try a method  
 14:21:54 **20** that might not work; correct?  
 14:21:56 **21** **A.** Happens all the time.  
 14:21:57 **22** **Q.** Okay. Happens all the time.  
 14:21:59 **23** And when you try a method that doesn't work,  
 14:22:01 **24** do you publish that?  
 14:22:02 **25** **A.** You might.  
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14:22:03 **1** **Q.** You may if you've gone through a whole  
 14:22:06 **2** study; correct?  
 14:22:07 **3** **A.** You might.  
 14:22:08 **4** **Q.** Okay. But you might not publish it;  
 14:22:11 **5** correct?  
 14:22:12 **6** MR. COREY GORDON: Object to the form of  
 14:22:13 **7** the question, incomplete hypothetical.  
 14:22:15 **8** **A.** I don't -- I don't know. I -- If you're  
 14:22:18 **9** getting to the maybe seven studies that were done by  
 14:22:24 **10** Dr. Reed and Dr. -- and his colleagues that were not  
 14:22:27 **11** published that were important data, then I probably  
 14:22:33 **12** won't agree with you.  
 14:22:35 **13** **Q.** Oh. So you could have unpublished data  
 14:22:37 **14** that's important?  
 14:22:40 **15** **A.** I guess what I'm saying is --  
 14:22:42 **16** **Q.** Is that what you're saying?  
 14:22:43 **17** Answer my question, please?  
 14:22:44 **18** MR. COREY GORDON: He's about to answer  
 14:22:47 **19** your question.  
 14:22:47 **20** **A.** No. I'm trying --  
 14:22:47 **21** MR. COREY GORDON: Don't cut him off.  
 14:22:47 **22** **A.** I'm trying to answer your question. So  
 14:22:47 **23** let's go back to --  
 14:22:50 **24** MR. ASSAAD: Simple question.  
 14:22:50 **25** **A.** Let's go back to particles --  
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14:22:51 **1** MR. ASSAAD: A very simple question.  
 14:22:55 **2** **Q.** Okay. I'm talking to my colleague.  
 14:22:56 **3** **A.** Yeah, that's fine.  
 14:22:57 **4** **Q.** I'm just saying it was a simple question,  
 14:22:59 **5** but you go ahead and answer.  
 14:23:01 **6** **A.** Okay. So, you know, one of the studies, you  
 14:23:04 **7** know, a series of studies that looked at particles as  
 14:23:10 **8** opposed to bacteria. And the real question is just,  
 14:23:16 **9** you know, you might find more particles, you might  
 14:23:18 **10** find more heat, you might find, you know, smoke, for  
 14:23:23 **11** example, but if the -- the question then is, do -- are  
 14:23:29 **12** the particles actually associated or linked with the  
 14:23:32 **13** colony-forming units.  
 14:23:33 **14** So in my report I have eight studies that  
 14:23:36 **15** show that no obvious signal, at least with the Bair  
 14:23:40 **16** Hugger in use, that you're going to get colony-forming  
 14:23:45 **17** units. And then through discovery find out that there  
 14:23:50 **18** were seven studies, you know, for the other side, if  
 14:23:53 **19** you will, that were not published that also showed you  
 14:23:58 **20** cannot find colony-forming units when the Bair Hugger  
 14:24:01 **21** is in use.  
 14:24:03 **22** So when you say that -- that the  
 14:24:05 **23** peer-reviewed literature is important, I totally  
 14:24:07 **24** agree, I want that. But if there are other studies,  
 14:24:10 **25** and I've shown you the seven, including ones where the  
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14:24:16 **1** authors said, look, we tried three different ways in  
 14:24:19 **2** five different studies to try to find colony-forming  
 14:24:21 **3** units when the Bair Hugger was working, we couldn't.  
 14:24:24 **4** So collectively I think those are use -- useful data.  
 14:24:30 **5** **Q.** Did you look at the studies?  
 14:24:32 **6** **A.** I did.  
 14:24:33 **7** **Q.** Okay. And they were not peer reviewed;  
 14:24:38 **8** correct?  
 14:24:39 **9** **A.** Don't even know I -- whether how many were  
 14:24:42 **10** even sent for peer review. You mean the seven that  
 14:24:45 **11** I'm talking about?  
 14:24:46 **12** **Q.** Were you provided any studies from 3M  
 14:24:48 **13** internally?  
 14:24:49 **14** **A.** No.  
 14:24:49 **15** **Q.** Okay. So 3M just provided you the studies  
 14:24:51 **16** to call -- talk about hidden studies of actual  
 14:24:56 **17** researchers that are trying to solve a problem, and  
 14:24:58 **18** they did not provide important internal studies that  
 14:25:00 **19** they have; correct?  
 14:25:02 **20** **A.** Well --  
 14:25:02 **21** MR. COREY GORDON: Object to the form of  
 14:25:04 **22** the question.  
 14:25:04 **23** THE WITNESS: Yeah.  
 14:25:04 **24** **A.** Well I guess what I found out about the  
 14:25:05 **25** studies was primarily through the depositions.  
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14:25:08 **1** **Q.** That wasn't my question. Just please answer  
 14:25:09 **2** my question.  
 14:25:09 **3** **A.** Yeah.  
 14:25:10 **4** **Q.** Did they provide you studies or not?  
 14:25:12 **5** **A.** Okay. Look. Maybe I didn't understand. Go  
 14:25:12 **6** ahead.  
 14:25:12 **7** **Q.** Did they provide you internal studies? Just  
 14:25:13 **8** answer my question, sir.  
 14:25:13 **9** MR. COREY GORDON: Asked -- Objection --  
 14:25:15 **10** (Interruption by the reporter.)  
 14:25:16 **11** MR. COREY GORDON: Objection, asked and  
 14:25:17 **12** answered.  
 14:25:18 **13** **Q.** Did they provide you any internal studies?  
 14:25:20 **14** MR. COREY GORDON: Objection, asked and  
 14:25:22 **15** answered.  
 14:25:22 **16** MR. ASSAAD: Fair enough.  
 14:25:24 **17** **A.** So internal studies, I don't think I saw  
 14:25:26 **18** anything from 3M.  
 14:25:33 **19** **Q.** And please, doctor, listen to my questions.  
 14:25:35 **20** **A.** I'll try better.  
 14:25:36 **21** **Q.** We have very few hours left. Let's not try  
 14:25:39 **22** to go on tangents.  
 14:25:43 **23** Are you aware that 3M manipulated particle  
 14:26:18 **24** data that they -- on a study that they funded?  
 14:26:23 **25** MR. COREY GORDON: Object to the form of  
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14:26:23 **1** the question, assumes facts not in evidence.  
 14:26:24 **2** **A.** Don't know anything about that.  
 14:26:25 **3** **Q.** So 3M did not provide you the data that they  
 14:26:28 **4** did particle tests out in Holland?  
 14:26:30 **5** **MR. COREY GORDON:** Same objections.  
 14:26:30 **6** **A.** I don't have that data.  
 14:26:32 **7** **Q.** Okay. Are you surprised that that data  
 14:26:34 **8** exists?  
 14:26:34 **9** **MR. COREY GORDON:** Same objections.  
 14:26:35 **10** **A.** I don't know how to answer that. I have --  
 14:26:37 **11** just haven't gotten it yet.  
 14:26:39 **12** **Q.** Are you aware that 3M funded a study to do  
 14:26:42 **13** the effects of the Bair Hugger on particles in a  
 14:26:46 **14** laminar operating room?  
 14:26:48 **15** **A.** No.  
 14:26:49 **16** **Q.** Did you do independent research to determine  
 14:26:52 **17** whether or not there were particle tests conducted on  
 14:26:56 **18** the Bair Hugger?  
 14:26:57 **19** **A.** Did I do research?  
 14:26:58 **20** **Q.** Yeah.  
 14:26:59 **21** **A.** No. I -- Everything that I did is in my  
 14:27:02 **22** report.  
 14:27:02 **23** **Q.** So you did not do any PubMed searches or  
 14:27:05 **24** researches to search with particle tests for a Bair  
 14:27:08 **25** Hugger?

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14:27:08 **1** **MR. COREY GORDON:** Object to the form of  
 14:27:10 **2** the question.  
 14:27:10 **3** **A.** Yeah, I did. I -- I think I have those  
 14:27:13 **4** listed.  
 14:27:14 **5** **Q.** You don't have the Dr. Sessler and Russ  
 14:27:16 **6** Olmsted study; do you?  
 14:27:18 **7** **A.** No, I don't think so.  
 14:27:19 **8** **Q.** Okay. So the one study that was funded by  
 14:27:22 **9** 3M, you don't have.  
 14:27:24 **10** **A.** Correct.  
 14:27:24 **11** **MR. COREY GORDON:** Object to the form of  
 14:27:25 **12** the question.  
 14:27:26 **13** **THE WITNESS:** I'm sorry.  
 14:27:27 **14** **Q.** That was done in 2011. You don't have that  
 14:27:29 **15** study.  
 14:27:29 **16** **A.** I don't think I have that study.  
 14:27:30 **17** **Q.** Okay. Are you aware that 3M has relied  
 14:28:00 **18** heavily on the Sessler study in trying to market the  
 14:28:08 **19** Bair Hugger device and its safety?  
 14:28:10 **20** **MR. COREY GORDON:** Object to the form of  
 14:28:12 **21** the question, also assumes facts not in evidence.  
 14:28:13 **22** **A.** No, I don't know any of that.  
 14:29:18 **23** **Q.** Doctor, you are aware that many orthopedic  
 14:29:21 **24** surgeons care about increase of particles in -- above  
 14:29:24 **25** the surgical site.

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14:29:26 **1** **MR. COREY GORDON:** Object to the form of  
 14:29:27 **2** the question, also lack of foundation.  
 14:29:28 **3** **A.** I don't know what they think about  
 14:29:29 **4** particles, no.  
 14:29:31 **5** **Q.** I mean, have you worked with orthopedic  
 14:29:34 **6** surgeons in the past?  
 14:29:35 **7** **A.** Only clinically --  
 14:29:35 **8** **Q.** When you say clini --  
 14:29:37 **9** **A.** -- where you take care of their patients.  
 14:29:39 **10** **Q.** After they've had the infection; correct?  
 14:29:40 **11** **A.** That's correct, yeah.  
 14:29:41 **12** **Q.** Okay. Do the numbers of bacteria arriving  
 14:30:09 **13** in the surgical wound correlate directly with the  
 14:30:12 **14** probability of surgical-site infection?  
 14:30:16 **15** **A.** Well I would point to Stocks article first,  
 14:30:19 **16** and he has a correlation for those particles that are  
 14:30:24 **17** greater than 10 microns in size. And then there is  
 14:30:28 **18** the study we talked about, the Darouiche study, that  
 14:30:32 **19** modeled bacteria and particles.  
 14:30:37 **20** **Q.** So you agree with Stocks' paper?  
 14:30:40 **21** **MR. COREY GORDON:** Object to the form of  
 14:30:41 **22** the question.  
 14:30:41 **23** **A.** Let me -- Let me -- Let me finish.  
 14:30:43 **24** You know, and then there's Birgand's study  
 14:30:46 **25** who in fact shows the correlation between -- in

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14:30:48 **1** general between particles and bacteria. But he also  
 14:30:52 **2** did something else, he looked at the relationship  
 14:30:55 **3** between the number of particles in the air and the  
 14:31:01 **4** contamination of the wound. That did not correlate at  
 14:31:03 **5** all. So Birgand talked about those studies in his  
 14:31:11 **6** article that there were many that showed a correlation  
 14:31:14 **7** and also many that didn't show a correlation.  
 14:31:19 **8** **Q.** So can you answer my question "yes" or "no"?  
 14:31:21 **9** I want to know what your opinion is, not what other  
 14:31:23 **10** people say.  
 14:31:23 **11** **A.** No. I understand. I mean I'm --  
 14:31:26 **12** **MR. COREY GORDON:** Let him finish his --  
 14:31:29 **13** **Q.** I could read their -- I could their  
 14:31:29 **14** articles.  
 14:31:29 **15** **A.** Yeah.  
 14:31:30 **16** **Q.** My question is: Does Dr. Wenzel, you, do  
 14:31:35 **17** you agree that the number of bacteria arriving in the  
 14:31:38 **18** surgical wound correlate directly with the probability  
 14:31:41 **19** of surgical-site infection?  
 14:31:43 **20** **MR. COREY GORDON:** Object to the form of  
 14:31:44 **21** the question, move to strike counsel's commentary.  
 14:31:46 **22** **A.** So when you say those, you're talking about  
 14:31:49 **23** the studies that correlate particles and bacteria are  
 14:31:51 **24** those that land in the wound, --  
 14:31:51 **25** **Q.** I am talking --

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14:31:53 **1 A.** -- you're saying?  
 14:31:53 **2 Q.** -- about -- not the studies, I'm talking  
 14:31:56 **3** about what Dr. Wenzel's opinion is.  
 14:31:59 **4 A.** Yeah.  
 14:31:59 **5 Q.** Okay. Based on what whatever you've read.  
 14:32:02 **6 A.** Yeah.  
 14:32:02 **7 Q.** Okay. I don't want to know the studies, I  
 14:32:05 **8** know what the studies are. Because I know some of  
 14:32:06 **9** them you agree with and some of them you don't agree  
 14:32:09 **10** with; correct?  
 14:32:11 **11 A.** That's right.  
 14:32:11 **12 Q.** Okay. So I want to know what your opinion  
 14:32:13 **13** is, not what the studies' opinion is.  
 14:32:13 **14 A.** Umm-hmm.  
 14:32:15 **15 Q.** Fair enough?  
 14:32:15 **16 A.** Yeah.  
 14:32:16 **17 Q.** Okay. Does Dr. Wenzel agree, you, that the  
 14:32:20 **18** number of bacteria arriving in the surgical wound  
 14:32:23 **19** correlate directly with the probability of a  
 14:32:26 **20** surgical-site infection?  
 14:32:28 **21 A.** I can't answer that for all studies, there  
 14:32:31 **22** is a disparity of that. But my opinion is that it's  
 14:32:36 **23** not been linked to surgical-site infections.  
 14:32:39 **24** Particles and bacteria have been linked, but not  
 14:32:42 **25** necessarily that link of CFUs and infection.

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14:33:46 **1** surgical-site infections?  
 14:33:47 **2 A.** I haven't seen that, no.  
 14:33:48 **3 Q.** So you disagree --  
 14:33:48 **4 A.** I don't know.  
 14:33:49 **5 Q.** -- with that.  
 14:33:50 **6 A.** I don't know.  
 14:33:51 **7 Q.** You don't know. Okay.  
 14:33:52 **8** You don't have an opinion whether or not OR  
 14:34:34 **9** traffic increases the risk of surgical-site infection;  
 14:34:39 **10** is that correct?  
 14:34:40 **11 A.** I think in general OR traffic's been linked  
 14:34:43 **12** to increasing particles. It's hard to know whether  
 14:34:45 **13** those increased surgical-site infections, but I think  
 14:34:50 **14** there are some studies. I'm having trouble  
 14:34:52 **15** remembering which ones show that it might, but it  
 14:34:54 **16** might be important. But then there is some  
 14:34:57 **17** contradictory evidence and I was just, in my report,  
 14:35:01 **18** trying to show that.  
 14:35:02 **19 Q.** Well just so I understand, at trial you're  
 14:35:05 **20** not going to have an opinion that OR traffic caused a  
 14:35:12 **21** surgical-site infection.  
 14:35:15 **22** MR. COREY GORDON: Object to the form of  
 14:35:17 **23** the question.  
 14:35:20 **24 A.** At this point I don't know. Yeah.  
 14:35:23 **25 Q.** Well I --

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14:32:46 **1 Q.** I wasn't talking about particles.  
 14:32:48 **2** Listen to the question.  
 14:32:49 **3 A.** Yeah. Go ahead.  
 14:32:50 **4 Q.** Do the numbers of bacteria arriving in the  
 14:32:54 **5** surgical wound correlate directly with the probability  
 14:32:57 **6** of surgical-site infection; "yes" or "no"?  
 14:33:01 **7 A.** Well Birgand would say no, he can't find a  
 14:33:07 **8** correlation with contamination of the wound.  
 14:33:09 **9 Q.** What about Dr. Wenzel?  
 14:33:11 **10 A.** I don't know.  
 14:33:12 **11 Q.** Okay. You don't know.  
 14:33:12 **12 A.** I mean, I'm not sure.  
 14:33:13 **13 Q.** Okay. What about this question: Do the  
 14:33:16 **14** number of bacteria in the operating room environment  
 14:33:19 **15** correlate directly with the probability of SSI, "yes"  
 14:33:24 **16** or "no," according to Dr. Wenzel?  
 14:33:25 **17** MR. COREY GORDON: Object to the form of  
 14:33:27 **18** the question, incomplete hypothetical. It's not a  
 14:33:29 **19** yes-or-no question.  
 14:33:33 **20 Q.** "Yes" or "no"?  
 14:33:34 **21 A.** So the total number of bacteria in the air?  
 14:33:36 **22 Q.** I'll read it again.  
 14:33:37 **23 A.** Yeah.  
 14:33:38 **24 Q.** Do numbers of bacteria in the operating room  
 14:33:42 **25** environment correlate directly with the probability of

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14:35:24 **1 A.** Yeah.  
 14:35:24 **2 Q.** -- here's the thing, doctor, and I'm not  
 14:35:26 **3** trying to be difficult. I know the studies as well as  
 14:35:29 **4** you do.  
 14:35:29 **5 A.** Yeah.  
 14:35:30 **6 Q.** Okay. And -- Not as well, but I know them  
 14:35:33 **7** fairly well. You probably know them better.  
 14:35:35 **8** I'm not -- I could read the studies as well.  
 14:35:37 **9** I want to know based on your reading of the studies  
 14:35:39 **10** what Dr. Wenzel's opinion is, okay? Not what the  
 14:35:42 **11** literature says, but what your opinion is. You could  
 14:35:44 **12** support it with the literature, but at this point in  
 14:35:46 **13** time I've read your report, I know what literature  
 14:35:49 **14** you're relying upon.  
 14:35:50 **15** I just want to know, okay, do you think that  
 14:35:56 **16** OR traffic increases the risk of surgical-site  
 14:36:03 **17** infections in a total hip or total knee arthroplasty?  
 14:36:06 **18 A.** It might, yes.  
 14:36:07 **19 Q.** It might --  
 14:36:07 **20 A.** Yeah.  
 14:36:07 **21 Q.** -- or it does?  
 14:36:08 **22 A.** I don't know. It might.  
 14:36:09 **23 Q.** Can you say that within a reasonable degree  
 14:36:11 **24** --  
 14:36:11 **25 A.** Yeah.

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14:36:11 **1 Q.** -- of medical probability?  
 14:36:12 **2 A.** Yeah, I think so.  
 14:36:13 **3 Q.** Okay. So if that's the case, then you have  
 14:36:15 **4** to agree that the -- the OR traffic increases  
 14:36:20 **5** particles, and therefore increases the bacterial load  
 14:36:23 **6** in the operating room; correct?  
 14:36:25 **7** MR. COREY GORDON: Object to the form of  
 14:36:26 **8** the question.  
 14:36:26 **9 A.** According to some people who've shown  
 14:36:28 **10** correlations.  
 14:36:30 **11 Q.** Well do you agree with that?  
 14:36:32 **12 A.** They'll show correlations with particles and  
 14:36:34 **13** CFUs in some studies, and I've already talked about  
 14:36:37 **14** those.  
 14:36:37 **15 Q.** I'm just saying with the OR traffic.  
 14:36:40 **16** Do you agree that the OR traffic has -- has  
 14:36:48 **17** an effect on surgical-site infections in total knee or  
 14:36:54 **18** total hip arthroplasty?  
 14:36:55 **19** MR. COREY GORDON: Object to the form of  
 14:36:55 **20** the question, --  
 14:36:55 **21 A.** It might.  
 14:36:56 **22** MR. COREY GORDON: -- also asked and  
 14:36:56 **23** answered.  
 14:36:57 **24 Q.** It might. Okay.  
 14:36:58 **25** And it may not; correct?  
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14:36:59 **1 A.** Yeah.  
 14:37:00 **2 Q.** Okay. So sitting here today you don't know  
 14:37:02 **3** one way or the other.  
 14:37:02 **4 A.** Yeah.  
 14:37:03 **5 Q.** Okay. Going on.  
 14:37:25 **6** Do you agree that the incidence of  
 14:37:36 **7** periprosthetic joint infection is related to surgical  
 14:37:39 **8** time?  
 14:37:40 **9 A.** Surgical time has been shown to be a risk  
 14:37:43 **10** factor, yes.  
 14:37:44 **11 Q.** So Dr. Wenzel agrees with that.  
 14:37:47 **12 A.** Yeah.  
 14:37:47 **13 Q.** Okay.  
 14:37:47 **14 A.** I have a example of that in my section on  
 14:37:50 **15** risk factors.  
 14:38:08 **16 Q.** Do you agree there still needs to be further  
 14:38:11 **17** research with per -- with respect to the effects of  
 14:38:18 **18** hypothermia on periprosthetic joint infection?  
 14:38:22 **19** MR. COREY GORDON: Object to the form of  
 14:38:23 **20** the question.  
 14:38:24 **21 A.** Well, you know I love data. Any more  
 14:38:28 **22** information that would be added to what I -- what we  
 14:38:32 **23** have here, I'm always -- I mean, there's never -- I'm  
 14:38:34 **24** never going to say, no, don't do a study.  
 14:38:37 **25 Q.** I understand that.  
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14:38:38 **1** But you're not going to do a study if you  
 14:38:40 **2** know the answer; correct?  
 14:38:42 **3** MR. COREY GORDON: Object to the form of  
 14:38:42 **4** the question.  
 14:38:44 **5 Q.** You do a study to find out the answer.  
 14:38:46 **6 A.** Yeah, you do, and -- but you always want  
 14:38:48 **7** confirmation, I think. I guess that's what I'm  
 14:38:51 **8** saying.  
 14:38:51 **9 Q.** I understand that. But are you -- But  
 14:38:54 **10** sitting here today you cannot state, with any degree  
 14:38:58 **11** of medical certainty, that maintaining normothermia  
 14:39:06 **12** reduces the incident of periprosthetic joint infection  
 14:39:09 **13** because that has never been looked at; correct?  
 14:39:12 **14** MR. COREY GORDON: Object to the form of  
 14:39:12 **15** the question.  
 14:39:13 **16 A.** So that part is true, they haven't studied  
 14:39:16 **17** just joints in a prospective way, yes.  
 14:39:18 **18 Q.** So further research would be needed to  
 14:39:20 **19** answer that question.  
 14:39:21 **20 A.** Further research would really help answer  
 14:39:24 **21** it.  
 14:39:25 **22 Q.** Okay. Are you aware that 3M never did a  
 14:39:44 **23** safety validation of the Bair Hugger device?  
 14:39:47 **24** MR. COREY GORDON: Object to the form of  
 14:39:49 **25** the question, lack of foundation, assumes facts not  
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14:39:51 **1** in evidence.  
 14:39:52 **2 A.** I'm not.  
 14:39:53 **3 Q.** Are you aware that the Bair Hugger device  
 14:39:55 **4** was based off a 1937 cast warmer?  
 14:39:59 **5** MR. COREY GORDON: Object to the form of  
 14:40:00 **6** the question.  
 14:40:01 **7 A.** No, I didn't know that.  
 14:40:02 **8 Q.** Okay. Are you aware that the older Bair  
 14:40:12 **9** Hugger device warned for air -- airborne  
 14:40:16 **10** contamination?  
 14:40:16 **11** MR. COREY GORDON: Object to the form of  
 14:40:19 **12** the question, assumes facts not in evidence.  
 14:40:21 **13 A.** Say that again.  
 14:40:21 **14 Q.** That the older version, the mod -- the  
 14:40:21 **15** series 200 Bair Hugger devices warned about airborne  
 14:40:24 **16** contamination?  
 14:40:24 **17** MR. COREY GORDON: Same objections.  
 14:40:26 **18 A.** And I don't know that. I don't re --  
 14:40:29 **19 Q.** Are you aware that competing products of the  
 14:40:30 **20** Bair Hugger, such as the Mistral, that are forced-air  
 14:40:36 **21** warming, warn about airborne contamination?  
 14:40:37 **22 A.** Don't know that either.  
 14:40:38 **23 Q.** Would that influence your opinion in any  
 14:40:40 **24** way?  
 14:40:40 **25 A.** I'd have to see what they say.  
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14:40:42 **1** **Q.** Okay. But the --  
 14:40:44 **2** But 3M has not shown you that information;  
 14:40:45 **3** correct?  
 14:40:46 **4** **A.** I haven't seen that.  
 14:40:48 **5** **Q.** And you love data; correct?  
 14:40:50 **6** **A.** I do.  
 14:40:50 **7** **Q.** I mean, you -- the more data the better for  
 14:40:52 **8** you; right?  
 14:40:53 **9** **A.** I like it.  
 14:40:53 **10** **Q.** I mean, you spent over 300 hours going  
 14:40:56 **11** through data; correct?  
 14:40:57 **12** **A.** That's true.  
 14:40:57 **13** **Q.** And if you had to do a hundred hours more  
 14:41:00 **14** you would do it; correct?  
 14:41:01 **15** **A.** I love it.  
 14:41:01 **16** **Q.** Love data.  
 14:41:02 **17** And if 3M gave you more data you would have  
 14:41:08 **18** reviewed it; right?  
 14:41:09 **19** **A.** I would.  
 14:41:10 **20** **Q.** Okay. And so sitting here today do you  
 14:41:19 **21** agree with me that there is some data that 3M did not  
 14:41:22 **22** provide you?  
 14:41:22 **23** MR. COREY GORDON: Object to the form of  
 14:41:23 **24** the question, assumes facts not in evidence, lack of  
 14:41:26 **25** foundation.

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14:41:26 **1** **A.** I don't know that.  
 14:41:26 **2** **Q.** Okay. Are you familiar with the  
 14:42:29 **3** international consensus of orthopedics that discuss  
 14:42:34 **4** periprosthetic joint infections?  
 14:42:35 **5** **A.** I don't think I know that.  
 14:42:37 **6** **Q.** It was sponsored by 3M.  
 14:42:39 **7** MR. COREY GORDON: Object to the form of  
 14:42:41 **8** the question, mischaracterizes the evidence.  
 14:42:44 **9** **A.** You're asking if I know that? I don't.  
 14:42:46 **10** **Q.** Okay. Do you know who Dr. Parvizi is?  
 14:42:49 **11** **A.** I know who he is, yeah.  
 14:42:52 **12** **Q.** Okay. Do you know --  
 14:42:53 **13** You know Dr. Gregory Stocks; correct?  
 14:42:55 **14** **A.** I don't know him, no.  
 14:42:56 **15** **Q.** But you've read his -- his -- you know who  
 14:42:58 **16** he is.  
 14:42:58 **17** **A.** Yes.  
 14:42:59 **18** **Q.** Okay. And you've actually cited to one of  
 14:43:02 **19** his articles; correct?  
 14:43:03 **20** **A.** I did.  
 14:43:03 **21** **Q.** Okay. And you would consider him an expert  
 14:43:05 **22** in orthopedic surgery; correct?  
 14:43:05 **23** MR. COREY GORDON: Object to the form of  
 14:43:09 **24** the question, lack of foundation.  
 14:43:09 **25** **A.** I don't know if he's an expert or not in

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14:43:11 **1** orthopedic surgery.  
 14:43:15 **2** **Q.** Are you aware that the general consensus  
 14:44:10 **3** among orthopedic surgeons have the opinion that  
 14:44:18 **4** periprosthetic joint infections are caused by airborne  
 14:44:20 **5** contaminants?  
 14:44:21 **6** MR. COREY GORDON: Object to the form of  
 14:44:23 **7** the question, lack of foundation, mischaracterizes,  
 14:44:24 **8** assumes facts not in evidence.  
 14:44:26 **9** **A.** No, I'm not aware of their general opinions.  
 14:45:33 **10** MR. ASSAAD: Let's take a break.  
 14:45:35 **11** THE REPORTER: Off the record, please.  
 14:45:37 **12** (Recess taken from 2:45 to 2:55 p.m.)  
 14:55:50 **13** BY MR. ASSAAD:  
 14:56:03 **14** **Q.** One of your critiques of the McGovern study  
 14:56:06 **15** was the change in anti -- the prophylactic  
 14:56:13 **16** anticoagulant; correct?  
 14:56:14 **17** **A.** Yes.  
 14:56:17 **18** **Q.** Okay. Are you aware of any studies that  
 14:56:20 **19** compared the two -- the two drugs used in McGovern for  
 14:56:31 **20** anticoagulation and compared with infection rates?  
 14:56:36 **21** **A.** I thought that Brimmo's study actually  
 14:56:41 **22** looked at the two, Rivaroxaban versus other  
 14:56:46 **23** anticoagulants.  
 14:56:50 **24** Now, you know, did -- your question partly  
 14:56:52 **25** was did it go only with enoxaparin. I don't think so.

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14:57:00 **1** I think there were options. The infection rate of  
 14:57:02 **2** course was two and a half percent versus .2 percent --  
 14:57:06 **3** or the, you know, with rivaroxaban the high number,  
 14:57:12 **4** and the other anticoagulants .2 percent, which was  
 14:57:16 **5** significant.  
 14:57:19 **6** So independent of the McGovern study I guess  
 14:57:26 **7** there were two parts of that study. I mean, Jensen's  
 14:57:31 **8** study was separate, and he found two and a half  
 14:57:35 **9** percent versus I think one percent, again with  
 14:57:42 **10** rivaroxaban. And then somewhere along the line, I  
 14:57:45 **11** think it was Albrecht who said, if you keep the  
 14:57:52 **12** antibiotics constant you get something like 4.2  
 14:57:57 **13** percent versus 1.7 percent.  
 14:57:59 **14** So these are the data that come to mind  
 14:58:03 **15** comparing rivaroxaban versus enoxaparin, or rather the  
 14:58:11 **16** -- the alternative.  
 14:58:13 **17** **Q.** Are you awa -- Okay. Let's go to your  
 14:58:15 **18** Exhibit Number 2, your Exhibit B.  
 14:58:17 **19** **A.** What am I going to?  
 14:58:18 **20** **Q.** Your document list.  
 14:58:20 **21** **A.** Oh.  
 14:58:25 **22** **Q.** And you mention the Berrios-Torres article,  
 14:58:31 **23** *Centers for Disease Control and Prevention Guideline*  
 14:58:32 **24** *For the Prevention of Surgical Site Infection 2017* as  
 14:58:36 **25** being authoritative?

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14:58:37 **1** **A.** Which number is this?

14:58:38 **2** **Q.** Exhibit Number 2.

14:58:40 **3** **A.** I'm sorry.

14:58:43 **4** **Q.** It's a list of documents you considered.

14:58:44 **5** **A.** Yeah.

14:58:47 **6** **Q.** Remember we talked about the CDC?

14:58:49 **7** **A.** Yeah.

14:58:49 **8** **Q.** Okay. And you thought it was authoritative?

14:58:52 **9** Are you aware that in this article it

14:58:54 **10** states, high-quality evidence suggested no difference

14:58:58 **11** between injectable enoxaparin and oral rivaroxaban and

14:59:03 **12** risk of SSI?

14:59:06 **13** **A.** I think I do remember that, yeah.

14:59:07 **14** **Q.** Okay. And you're disregarding that.

14:59:10 **15** **A.** No, I'm not -- I wouldn't disregard

14:59:11 **16** anything.

14:59:12 **17** **Q.** And this was based on no difference in SSI

14:59:14 **18** in a large meta-analysis, 12,383 patients of four,

14:59:23 **19** random controlled trials in elective primary or

14:59:26 **20** revision total hip or total knee arthroplasty, and no

14:59:30 **21** difference in hemorrhagic wound complications or

14:59:35 **22** drug-related adverse effects.

14:59:35 **23** Do you disagree with that or agree with

14:59:37 **24** that?

14:59:37 **25** MR. COREY GORDON: What are you reading

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14:59:38 **1** from?

14:59:39 **2** **Q.** He knows where I'm reading from.

14:59:40 **3** **A.** So I think you're referring to the capital

14:59:42 **4** studies, or what are they called, the RECORD studies,

14:59:45 **5** I guess. Is that the reference that you're talking

14:59:49 **6** about, CDC said that?

14:59:50 **7** **Q.** They're referring to --

14:59:51 **8** **A.** The four large studies?

14:59:53 **9** **Q.** Eriksson, Kakkar?

14:59:57 **10** **A.** I think they're all part of the RECORD

14:59:59 **11** studies.

15:00:00 **12** **Q.** And do you disagree with the CDC?

15:00:03 **13** **A.** Well I think I have to clarify that, because

15:00:05 **14** Jensen did a study, and he said unfortunately the

15:00:10 **15** RECORD studies didn't do a very good job looking at

15:00:13 **16** surgical-site infections, and that's why -- that's

15:00:15 **17** prompted him to do a study.

15:00:17 **18** **Q.** So you disa --

15:00:17 **19** **A.** And Brema --

15:00:19 **20** **Q.** You disagree with the CDC.

15:00:19 **21** **A.** I think it needs some clarification, in that

15:00:23 **22** sense.

15:00:23 **23** **Q.** So --

15:00:23 **24** But you disagree with their statement that

15:00:25 **25** high quality -- high quality --

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15:00:28 **1** **A.** Yeah.

15:00:29 **2** **Q.** -- evidence suggested no difference between

15:00:31 **3** injectable enoxaparin and oral rivaroxaban and risk of

15:00:35 **4** SSI.

15:00:37 **5** Do you agree or disagree with the CDC?

15:00:39 **6** **A.** So that's what they found, that's what they

15:00:41 **7** believe. I was just trying to clarify, and I don't

15:00:44 **8** necessarily disagree with them, I have a different

15:00:47 **9** interpretation based on, you know, the studies of

15:00:51 **10** Jensen and Brimmo.

15:00:53 **11** **Q.** What was the number of people in those

15:00:55 **12** populations in Jensen?

15:00:57 **13** **A.** They were -- They were much smaller than the

15:00:58 **14** thousands in this.

15:01:00 **15** **Q.** 12,383.

15:01:01 **16** **A.** Yeah.

15:01:02 **17** **Q.** Okay.

15:01:02 **18** **A.** But -- But again, I just want to point out,

15:01:05 **19** when Jensen opens up his article he said, look, we

15:01:08 **20** don't have a good handle on surgical-site infections.

15:01:10 **21** They focused on bleeding, they focused on which was a

15:01:14 **22** comparable or a different thromboprophylaxis from the

15:01:20 **23** point of view of a DVT or a pulmonary embolus. And

15:01:23 **24** then Borak, when he was asked similar questions, said

15:01:26 **25** he couldn't even find the definition that they used.

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15:01:29 **1** And so it comports with the same finding that Jensen

15:01:35 **2** said in his study, and the same for Brimmo. They both

15:01:41 **3** think that --

15:01:41 **4** **Q.** What's Dr. Wenzel's opinion? Does -- Is

15:01:44 **5** there a difference in the risk of surgical-site

15:01:48 **6** infection between rivaroxaban and enoxaparin?

15:01:51 **7** MR. COREY GORDON: You're asking about

15:01:52 **8** enoxaparin, --

15:01:52 **9** **A.** Yeah. Not --

15:01:52 **10** MR. COREY GORDON: -- not tinzaparin.

15:01:52 **11** **A.** Yeah.

15:01:56 **12** **Q.** I'm asking.

15:01:56 **13** **A.** Yeah. I mean, in those studies CDC is

15:02:00 **14** probably right.

15:02:06 **15** **Q.** And you're aware that the CDC put

15:02:09 **16** enoxaparin, dalteparin, tinzaparin and fondaparinux as

15:02:16 **17** one category.

15:02:17 **18** **A.** I didn't know, but I'm not surprised.

15:02:19 **19** **Q.** Because they're all the same pretty much;

15:02:20 **20** correct?

15:02:21 **21** **A.** I think they're --

15:02:23 **22** MR. COREY GORDON: Object to the form of

15:02:23 **23** the question.

15:02:22 **24** **A.** -- in the same family.

15:02:24 **25** **Q.** The same family.

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15:02:27 **1** Turning to page 73 of your report. Is page  
 15:02:50 **2** 73 the entire critique, in your report, of Dr. Jarvis?  
 15:02:59 **3** **A.** Did I write anything else; is that what  
 15:03:00 **4** you're asking?  
 15:03:01 **5** **Q.** Yes.  
 15:03:01 **6** **A.** I think I don't have anything else in the  
 15:03:03 **7** report.  
 15:03:04 **8** **Q.** And would --  
 15:03:05 **9** And would you agree with me that the bottom  
 15:03:07 **10** of page 73 and 74 is your entire critique of Dr.  
 15:03:10 **11** Samet?  
 15:03:11 **12** **A.** Yeah.  
 15:03:12 **13** MR. COREY GORDON: Object to the form of  
 15:03:13 **14** the question.  
 15:03:32 **15** **Q.** Now you would agree with me, doctor, that  
 15:03:36 **16** the majority of the articles that you cite deal more  
 15:03:39 **17** with superficial surgical-site infections and not  
 15:03:48 **18** periprosthetic joint infections.  
 15:03:50 **19** **A.** Yeah. I haven't counted them up, but many  
 15:03:52 **20** of them deal with su -- with the superficial  
 15:03:54 **21** infections.  
 15:03:55 **22** **Q.** And even though they're both infections,  
 15:04:01 **23** there is some difference in the mechanism of cause.  
 15:04:07 **24** **A.** I'm not sure that's correct. In other  
 15:04:10 **25** words, my own concept is the initiation of infection  
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15:04:13 **1** is quite similar. You have an or -- an organism  
 15:04:17 **2** that's part of the flora; to me that's the origin in  
 15:04:20 **3** both. The organism gets to the wound; that's the  
 15:04:24 **4** same. And it's there at -- usually at the time of  
 15:04:27 **5** incision.  
 15:04:29 **6** After that, as I said, once the organism  
 15:04:32 **7** gets on the vascular prosthetic device it begins to go  
 15:04:38 **8** through some changes through quorum sensing, it does  
 15:04:41 **9** build up the biofilm, and that's different, vastly  
 15:04:45 **10** different.  
 15:04:46 **11** **Q.** I understand that.  
 15:04:46 **12** But you agree one of the differences is the  
 15:04:49 **13** quantity of bacteria required to cause the infection.  
 15:04:53 **14** **A.** I think it's fewer bacteria to cause an  
 15:04:56 **15** infection with the prosthesis.  
 15:04:59 **16** **Q.** And -- And one of the reasons is because  
 15:05:00 **17** when you have, for example, prophylactic antibiotics  
 15:05:05 **18** as well as the host immune system, that's much more  
 15:05:10 **19** effective at eliminating or attacking the bacteria  
 15:05:13 **20** than on a device that has no vascularity and therefore  
 15:05:19 **21** the host can't fight it off; correct?  
 15:05:22 **22** MR. COREY GORDON: Objection, asked and  
 15:05:23 **23** answered.  
 15:05:23 **24** **A.** Yeah, the way that I would -- yeah, I would  
 15:05:25 **25** say if you can't control the microbiome you're going  
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15:05:27 **1** to get infections.  
 15:05:57 **2** **Q.** Let's go to page 3.  
 15:05:59 **3** **A.** Okay. Yeah.  
 15:06:15 **4** **Q.** The chart you have on page 3, Figure 1, is  
 15:06:17 **5** right out of the 1996 Kurz study; correct?  
 15:06:20 **6** **A.** Yes.  
 15:06:20 **7** **Q.** Okay. You would agree with me that the  
 15:06:23 **8** first hour that a patient's being warmed the patient  
 15:06:26 **9** still becomes hypothermic in colorectal surgeries.  
 15:06:30 **10** **A.** I think that's --  
 15:06:32 **11** You know, if you ask what proportion of the  
 15:06:34 **12** time, I don't know, but they are hypothermic for  
 15:06:37 **13** awhile.  
 15:06:37 **14** **Q.** Okay. Even with forced-air warming.  
 15:06:39 **15** **A.** Umm-hmm.  
 15:06:40 **16** **Q.** Is that a "yes"?  
 15:06:41 **17** **A.** Yes.  
 15:06:41 **18** **Q.** Okay.  
 15:06:41 **19** **A.** Sorry.  
 15:06:44 **20** **Q.** And you recall Dr. Kurz, in her deposition,  
 15:06:48 **21** discussing the types of infections that they were  
 15:06:53 **22** counting with respect to -- to calculate the incident  
 15:06:59 **23** of infection with forced-air warming and without  
 15:07:00 **24** forced-air warming. Do you recall that testimony?  
 15:07:02 **25** **A.** No, --  
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15:07:03 **1** MR. COREY GORDON: Object to the form of  
 15:07:04 **2** the question.  
 15:07:02 **3** **A.** -- I don't remember that.  
 15:07:04 **4** **Q.** Do you recall her stating that many of the  
 15:07:06 **5** infections that they were identifying were  
 15:07:15 **6** non-clinically significant infections?  
 15:07:16 **7** MR. COREY GORDON: Object to the form of  
 15:07:18 **8** the question, mischaracterizes --  
 15:07:19 **9** **A.** I don't remember that, --  
 15:07:19 **10** MR. COREY GORDON: -- the evidence.  
 15:07:19 **11** **A.** -- but I'd be happy to look at it again.  
 15:07:21 **12** **Q.** You would defer to Dr. Kurz with respect to  
 15:07:24 **13** the interpretation of her own study; correct?  
 15:07:26 **14** MR. COREY GORDON: Object to the form of  
 15:07:26 **15** the question.  
 15:07:27 **16** **A.** Yeah. You know, we talked about this  
 15:07:28 **17** earlier where she changed her opinion, you know,  
 15:07:31 **18** through the start, so, but I -- yeah, in general she  
 15:07:35 **19** called that -- whatever she called the infection I  
 15:07:37 **20** would defer to her.  
 15:07:38 **21** **Q.** Okay. Just like when you have a question  
 15:07:42 **22** about a study, you call the author of the study and  
 15:07:44 **23** ask questions; correct?  
 15:07:45 **24** **A.** I do sometimes.  
 15:07:46 **25** **Q.** Like you did with Dr. Darouiche.  
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15:07:48 **1 A.** I do.  
 15:07:49 **2 Q.** Okay. And with Dr. Chen; correct?  
 15:07:54 **3 A.** Yes.  
 15:07:54 **4 Q.** Okay. Because for the most part the person  
 15:08:00 **5** that conducted the study knows more about the study  
 15:08:05 **6** that was -- that was done; correct?  
 15:08:07 **7 A.** That's true.  
 15:08:08 **8 Q.** Okay. Now with respect to the oxygenation  
 15:08:41 **9** issue and the benefits of oxygenation by using  
 15:08:44 **10** forced-air warming, none of those studies looked at  
 15:08:47 **11** periprosthetic joint infections; correct?  
 15:08:49 **12 A.** I think that's true.  
 15:08:50 **13 Q.** Okay. And you agree with me that when  
 15:09:12 **14** Andrea Kurz indicated in her deposition with respect  
 15:09:16 **15** to what would happen if you did the study now and it  
 15:09:21 **16** would be a 30 percent reduction, that was speculation,  
 15:09:24 **17** that was a hypothesis; correct?  
 15:09:26 **18 A.** That's what she said. That's all I know.  
 15:09:28 **19 Q.** There is no data to support that; correct?  
 15:09:30 **20 A.** No. She was saying this is what it would  
 15:09:32 **21** look like in her opinion.  
 15:09:33 **22 Q.** And that was a hypothesis; correct?  
 15:09:35 **23 A.** Correct.  
 15:09:35 **24 Q.** And there are many times that hypotheses are  
 15:09:38 **25** wrong; correct?

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15:09:39 **1 A.** Sometimes that happens.  
 15:09:40 **2 Q.** And that's why you do the study; correct?  
 15:09:42 **3 A.** Yes.  
 15:09:44 **4 Q.** Okay. So you agree that she admits that the  
 15:09:50 **5** reduction of infection is going to be a lot less than  
 15:09:53 **6** threefold, and it's her hypothesis that if the study  
 15:09:58 **7** was done now it would be about 30 percent reduction  
 15:10:00 **8** for colorectal surgeries.  
 15:10:02 **9 MR. COREY GORDON:** Object to the form of  
 15:10:03 **10** the question, lack of foundation.  
 15:10:05 **11 A.** I mean, what I would say is, you know, that  
 15:10:07 **12** study done, what, 20 years ago or so, in the meantime  
 15:10:12 **13** a whole lot of other changes, we'll just mention  
 15:10:15 **14** Darouiche and the -- and the antiseptic. And one of  
 15:10:19 **15** the concepts that I think goes on as you look at more  
 15:10:22 **16** recent studies, which reflects on your question, is  
 15:10:27 **17** what's the modifiable, residual modifiable effect you  
 15:10:32 **18** can have when you start adding all things that cut  
 15:10:35 **19** down the infection rate. It's awful hard to show,  
 15:10:39 **20** when you're moving away from that, if you have three  
 15:10:42 **21** or four or five, you know, improvements in outcome,  
 15:10:47 **22** then you have less proportion of infections you can  
 15:10:50 **23** impact with a new process or a new product.  
 15:10:56 **24** Am I making sense, or?  
 15:10:57 **25 Q.** Wel, yeah, you're making...

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15:10:58 **1** Let me ask you a question. If a patient  
 15:11:02 **2** only used warm blankets during a total hip or total  
 15:11:06 **3** knee arthroplasty, do you know whether or not the  
 15:11:09 **4** patient would become hypothermic?  
 15:11:12 **5 A.** No, I don't know that. I don't know what  
 15:11:12 **6** the --  
 15:11:12 **7 Q.** So --  
 15:11:14 **8 A.** -- data show.  
 15:11:16 **9 Q.** -- sitting here today, you don't know  
 15:11:17 **10** whether or not just using warm blankets is just as  
 15:11:21 **11** efficacious as the forced-air warming.  
 15:11:23 **12 A.** I thought there were studies that showed it  
 15:11:25 **13** didn't work as well. Can't cite them right now, but I  
 15:11:30 **14** have read that somewhere.  
 15:11:31 **15 Q.** You haven't --  
 15:11:32 **16** Did you ever look at the Dr. Sessler study  
 15:11:35 **17** of 2015 that compared just blankets to forced-air  
 15:11:38 **18** warming?  
 15:11:39 **19 A.** No. I don't know that one.  
 15:11:56 **20 Q.** And in fact you're familiar with the study  
 15:11:59 **21** that looked at the data out of Hopkins that showed no  
 15:12:04 **22** reduction in periprosthetic joint infections between  
 15:12:09 **23** patients that had thermoregulation and patients that  
 15:12:14 **24** didn't have thermoregulation.  
 15:12:15 **25 A.** You're talking about the first study in

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15:12:17 **1** my -- in my chart of the cohorts?  
 15:12:19 **2 Q.** I'm not sure, but do you recall the Hopkins  
 15:12:22 **3** study that looked at the Hopkins data?  
 15:12:24 **4 A.** Yeah, I think -- Let me just -- I have that  
 15:12:27 **5** in the chart of cohorts that we just looked at. Here  
 15:12:33 **6** we go. So page 8.  
 15:12:35 **7** What I'm asking you, I guess, is are you  
 15:12:37 **8** referring to the study number 1 at the top? Hopkins  
 15:12:45 **9** uses a WarmTouch forced-air warming, and that was a  
 15:12:50 **10** big study, you know, 46,000 plus, it's a cohort.  
 15:12:55 **11** Amazing low percent that got hypothermic.  
 15:12:59 **12 Q.** Is this the Brown study?  
 15:13:01 **13 A.** Forgot the name of the first author. But  
 15:13:10 **14** the lead author is -- was an anesthesiologist I think,  
 15:13:14 **15** the other ones who did that.  
 15:13:32 **16 Q.** This is the Scott study; correct?  
 15:13:33 **17 A.** I think it's the Scott study. That's right,  
 15:13:35 **18** yeah.  
 15:13:35 **19 Q.** Okay. And if you look at the Scott study --  
 15:13:51 **20** Do you know what the SCIP protocols are?  
 15:13:54 **21 A.** Yeah. I have an idea, yeah.  
 15:13:55 **22 Q.** So for wound infection, the -- when a --  
 15:14:00 **23** when the patients were not com -- SCIP non-compliant  
 15:14:04 **24** you had 3.6 percent of wound infection, and when they  
 15:14:07 **25** were SCIP compliant they had 3.8 percent wound

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15:14:10 **1** infection.

15:14:13 **2** So how do you get an SSI of -- a risk ratio

15:14:19 **3** of .86 for wound infe -- for surgical-site infection?

15:14:26 **4** **A.** I don't remember how I got that, but it was

15:14:27 **5** clearly not significant.

15:14:30 **6** **Q.** Okay. So you agree with me that even

15:14:34 **7** current studies show that there is no benefit with

15:14:45 **8** forced-air warming with respect to surgical-site

15:14:48 **9** infections.

15:14:48 **10** **A.** Especially current studies, because of all

15:14:50 **11** the management that has gone on beforehand to

15:14:53 **12** introduce controls of the residual proportion of

15:14:57 **13** infections that you can mod -- you know, modulate.

15:15:03 **14** **Q.** So you would agree with Andrea Kurz, then,

15:15:05 **15** that in -- in today's world, okay, --

15:15:09 **16** **A.** Umm-hmm?

15:15:09 **17** **Q.** -- that there's no scientific evidence that

15:15:14 **18** indicates that forced-air warming reduces the incident

15:15:21 **19** of surgical-site infections.

15:15:23 **20** **A.** No, I won't --

15:15:24 **21** MR. COREY GORDON: Object to the form of

15:15:25 **22** the question, and misstates the evidence.

15:15:27 **23** **A.** No, I won't agree with that.

15:15:29 **24** What I'm saying is she was saying that,

15:15:32 **25** look, you know, going forward with all the changes

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15:15:35 **1** going on we might only see 30 percent instead of 67

15:15:38 **2** percent reduction. That's what I recall, and that's

15:15:41 **3** what I cited in my report.

15:15:42 **4** **Q.** But you also cited Scott --

15:15:44 **5** **A.** Yeah.

15:15:45 **6** **Q.** -- that showed that patients that were SCIP

15:15:47 **7** non-compliant had a lower infection rate than patients

15:15:50 **8** that were SCIP compliant.

15:15:52 **9** **A.** Well if you look at all infections, that was

15:15:55 **10** statistically significant, all -- all infections. The

15:16:00 **11** surgical site he couldn't show a difference.

15:16:01 **12** **Q.** Okay. We're not looking at all infections

15:16:03 **13** here, doctor.

15:16:04 **14** **A.** Yeah, okay.

15:16:04 **15** **Q.** We're looking at surgical-site infections.

15:16:07 **16** **A.** Perfect.

15:16:08 **17** **Q.** Which is a wound infection; correct?

15:16:09 **18** **A.** Yes.

15:16:10 **19** **Q.** Okay. And in the Scott study SCIP

15:16:12 **20** non-compliant had a lower infection rate than SCIP

15:16:16 **21** compliant; correct?

15:16:18 **22** **A.** You mean a non -- nonsignificant --

15:16:20 **23** **Q.** It's nonsignificant, but it was still -- it

15:16:23 **24** was still lower.

15:16:23 **25** **A.** Fine.

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15:16:24 **1** **Q.** Okay. I mean, you're right, it is

15:16:25 **2** nonsignificant --

15:16:26 **3** **A.** Yeah.

15:16:26 **4** **Q.** -- because the p value's .7811.

15:16:29 **5** **A.** Yeah. Not at all.

15:16:30 **6** **Q.** The p value's very high.

15:16:31 **7** **A.** Yeah.

15:16:32 **8** **Q.** So that would indicate to a scientist, such

15:16:34 **9** as yourself, that there's no difference between --

15:16:37 **10** between warming and non-warming.

15:16:39 **11** **A.** True.

15:16:40 **12** **Q.** Okay.

15:16:41 **13** MR. COREY GORDON: Object to the form of

15:16:43 **14** the question.

15:17:38 **15** **Q.** Now you spent a considerable amount of time

15:17:40 **16** going over comorbidities.

15:17:42 **17** **A.** Yeah.

15:17:42 **18** **Q.** Okay. Can we just agree that the

15:17:46 **19** comorbidities will be case specific depending on the

15:17:49 **20** patient?

15:17:50 **21** MR. COREY GORDON: Object to the form of

15:17:51 **22** the question.

15:17:52 **23** **A.** So if you're asking can I predict the

15:17:55 **24** infection rate above or below the average as a result

15:17:59 **25** of incorporating comorbidities, yes. Is that what

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15:18:03 **1** you're asking?

15:18:03 **2** **Q.** I mean, for example, you talk about diabetes

15:18:05 **3** and obesity, --

15:18:06 **4** **A.** Yeah.

15:18:07 **5** **Q.** -- other things.

15:18:08 **6** But you would agree with me that that

15:18:10 **7** discussion might be more appropriate when we actually

15:18:12 **8** know what patient we're talking about; correct?

15:18:14 **9** MR. COREY GORDON: Object to the form of

15:18:16 **10** the question.

15:18:16 **11** MR. ASSAAD: Basis?

15:18:17 **12** MR. COREY GORDON: Appropriate to what?

15:18:23 **13** Appropriate to his discussion of why McGovern is not

15:18:25 **14** effective? No. The word "appropriate" is -- is

15:18:31 **15** completely vague and meaningless.

15:18:32 **16** MR. ASSAAD: Why are you yelling to me,

15:18:35 **17** Corey?

15:18:35 **18** MR. COREY GORDON: I'm not yelling. I'm --

15:18:38 **19** You're detecting an exasperated tone in my voice, but

15:18:43 **20** I'm not yelling.

15:18:44 **21** MR. ASSAAD: Are you picking up that stick

15:18:45 **22** to hit me?

15:18:46 **23** MR. COREY GORDON: Not yet.

15:18:47 **24** (Laughter.)

15:18:52 **25** MR. GOSS: Let me tell you, it hurts when

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15:18:54 **1** that thing comes down.  
 15:18:56 **2** (Laughter.)  
 15:18:56 **3** BY MR. ASSAAD:  
 15:19:30 **4** **Q.** Are you aware of articles that discuss that  
 15:19:32 **5** the incidence of periprosthetic joint infections are  
 15:19:34 **6** going to increase over the next twenty -- up to 2030?  
 15:19:39 **7** MR. COREY GORDON: Object to the form of  
 15:19:40 **8** the question.  
 15:19:40 **9** **A.** Yeah, related to the increased number of  
 15:19:41 **10** people who are undergoing the procedures, so.  
 15:19:44 **11** **Q.** When we talk about incidence, I'm talking  
 15:19:46 **12** about the percentage.  
 15:19:48 **13** **A.** Percent?  
 15:19:48 **14** **Q.** Do you recall an article that indicated by  
 15:19:51 **15** 2030 the -- the incident of periprosthetic joint  
 15:19:57 **16** infections will be as high as 6 percent?  
 15:19:59 **17** **A.** I'm not aware of that at all.  
 15:20:42 **18** **Q.** You would agree with me that being diabetic  
 15:20:47 **19** is not a cause of the infection.  
 15:20:51 **20** MR. COREY GORDON: Object to the form of  
 15:20:52 **21** the question.  
 15:20:53 **22** **A.** I don't agree with that at all. My view of  
 15:20:56 **23** infections, surgical-site infections is that they're  
 15:21:01 **24** multifactorial and the comorbidities, for example, are  
 15:21:05 **25** a -- one factor that can certainly change the baseline  
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15:21:10 **1** rate if you're not having those comorbidities. So I  
 15:21:14 **2** look at all the risk factors as, if you will, risk  
 15:21:20 **3** factors and causes. So if you said to me, I have  
 15:21:23 **4** twins, one of them is -- you know, exactly the same  
 15:21:28 **5** genetics, same surgeon, same operation, everything the  
 15:21:31 **6** same except one's an obese diabetic, and that patient  
 15:21:36 **7** gets an infection post-op, of course the diabetes and  
 15:21:41 **8** the obesity contributed to that person's increased  
 15:21:44 **9** risk of infection.  
 15:21:47 **10** **Q.** Doesn't that go to susceptibility?  
 15:21:54 **11** **A.** What I know it goes to is -- at least in  
 15:21:58 **12** terms of diabetes and obesity, is a change in the  
 15:22:02 **13** microbiome. Is that what you mean by  
 15:22:05 **14** "susceptibility"?  
 15:22:05 **15** **Q.** So you think in that -- And -- Okay.  
 15:22:10 **16** I want to make sure I understand you. You  
 15:22:12 **17** think obesity and diabetes has an effect on the human  
 15:22:15 **18** microbiome.  
 15:22:15 **19** **A.** It does, and I've cite -- several studies  
 15:22:18 **20** that I've cited.  
 15:22:19 **21** **Q.** Okay. And therefore what type of effect;  
 15:22:25 **22** does it increase the -- the number of bacteria on the  
 15:22:29 **23** skin?  
 15:22:29 **24** MR. COREY GORDON: Object to the form of  
 15:22:30 **25** the question.  
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15:22:30 **1** **A.** Increases for sure the number of people who  
 15:22:33 **2** are nasal carriers of Staph aureus, and by definition  
 15:22:39 **3** those people are more susceptible to infections.  
 15:22:41 **4** There may be other things as well, but that's -- the  
 15:22:43 **5** study of the microbiome is pretty young still, but  
 15:22:46 **6** it's a remarkable thing that we have several studies  
 15:22:49 **7** showing that.  
 15:22:49 **8** **Q.** But you still -- you agree with me that the  
 15:22:51 **9** fact that --  
 15:22:54 **10** You still need the bacteria to cause the  
 15:22:56 **11** infection; correct?  
 15:22:58 **12** **A.** Bacteria are necessary, not sufficient.  
 15:23:02 **13** **Q.** You can't have an infection without the  
 15:23:03 **14** bacteria; correct?  
 15:23:04 **15** **A.** That's true.  
 15:23:05 **16** **Q.** Okay. And you are just saying that a person  
 15:23:09 **17** that is obese might be more likely to be a Staph  
 15:23:15 **18** aureus carrier or an MRS carrier.  
 15:23:18 **19** **A.** That's for sure, and I know that person's at  
 15:23:20 **20** higher risk when you look at the epidemiologic  
 15:23:24 **21** studies, which I've cited, for getting a surgical-site  
 15:23:27 **22** infection.  
 15:23:28 **23** **Q.** I understand that.  
 15:23:28 **24** But my point is that makes them more  
 15:23:33 **25** susceptible, not that -- I mean --  
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15:23:36 **1** The only thing I know that causes a  
 15:23:38 **2** periprosthetic joint infection is a bacteria; correct?  
 15:23:40 **3** **A.** That's always there.  
 15:23:41 **4** **Q.** Okay. The fact that I am -- someone's obese  
 15:23:44 **5** is not going to spontaneously have an infection  
 15:23:47 **6** without a bacteria; correct?  
 15:23:49 **7** **A.** Correct.  
 15:23:49 **8** **Q.** Okay. It is the bacteria that causes the  
 15:23:53 **9** infection, and it is the host that may be susceptible  
 15:23:58 **10** more or less than the average human and may allow the  
 15:24:06 **11** infection to progress.  
 15:24:07 **12** MR. COREY GORDON: Object to the form of  
 15:24:08 **13** the question.  
 15:24:08 **14** **A.** You and I are going to disagree. I mean, I  
 15:24:11 **15** think that risk factors are, by definition, causal,  
 15:24:15 **16** and -- that's why I tried to give you the twins, one  
 15:24:20 **17** was a diabetic obese, and without that that person,  
 15:24:24 **18** the twin, didn't get an infection. You're asking a  
 15:24:27 **19** little bit about mechanisms, which aren't fully worked  
 15:24:30 **20** out.  
 15:24:31 **21** **Q.** Well the one that's diabetic obese compared  
 15:24:33 **22** to the regular twin, okay, the diabetic obese still  
 15:24:51 **23** would have to have a bacteria that would get into the  
 15:24:53 **24** joint area during the operation to cause an infection;  
 15:24:55 **25** correct?  
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15:24:56 **1 A.** Yeah. I mean --

15:24:57 **2 Q.** And the same thing with a person that's

15:24:59 **3** skinny; correct?

15:25:00 **4 A.** That's correct.

15:25:00 **5 Q.** Unless, let's assume it's the same amount of

15:25:03 **6** bacteria, say it's a thousand CFUs or 10,000 CFUs,

15:25:08 **7** okay? My understanding, and see if we could agree,

15:25:10 **8** that the diabetic obese patient is more prone to --

15:25:14 **9** for the -- for the CFUs to -- to -- like -- more

15:25:20 **10** likely to become infected because that person is obese

15:25:23 **11** and a diabetic as compared to the healthy person.

15:25:28 **12** MR. COREY GORDON: Object to the form.

15:25:30 **13 Q.** Do you understand what I'm saying?

15:25:31 **14 A.** Not really, no.

15:25:36 **15 Q.** Okay. You still need the bacteria to land

15:25:37 **16** on the -- the diabetic and obese person; correct?

15:25:42 **17 A.** Correct.

15:25:42 **18 Q.** If no bacteria lands on the joint during the

15:25:44 **19** operation of a diabetic obese patient, that patient,

15:25:49 **20** more likely than not, is not going to have an

15:25:50 **21** infection; correct?

15:25:51 **22 A.** Yes.

15:25:51 **23** MR. COREY GORDON: Object to the form of

15:25:52 **24** the question.

15:25:53 **25 Q.** Correct?

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15:25:54 **1 A.** Yes.

15:25:54 **2 Q.** And in fact it would be impossible, without

15:25:56 **3** bacteria, for that person to have an infection;

15:25:58 **4** correct?

15:25:58 **5 A.** Need the bacteria.

15:25:59 **6 Q.** Huh?

15:26:00 **7 A.** Need the bacteria.

15:26:01 **8 Q.** You need the bacteria.

15:26:02 **9** Whether or not you are obese, diabetic,

15:26:05 **10** immunosuppressed and whatever type of comorbidity

15:26:10 **11** there is, you need the bacteria.

15:26:11 **12 A.** Yes.

15:26:12 **13 Q.** Okay. You could be immunosuppressed and go

15:26:29 **14** through a total hip and total knee arthroplasty, and

15:26:32 **15** as long as no bacteria lands in the joint area you're

15:26:34 **16** not going to get an infection; correct?

15:26:36 **17 A.** I think that's true.

15:26:38 **18 Q.** Same thing with a diabetic; correct?

15:26:40 **19 A.** Yes.

15:26:41 **20 Q.** Same thing with an obese person; correct?

15:26:42 **21 A.** Yes.

15:26:43 **22 Q.** Okay. You need the bacteria to get to the

15:26:45 **23** joint; correct?

15:26:46 **24 A.** You do.

15:26:47 **25 Q.** Okay. Go to page 13.

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15:27:25 **1 A.** Sure.

15:27:45 **2 Q.** On the third paragraph from the bottom where

15:27:47 **3** it says: "Thus, substantial rises in comorbidities"?

15:27:51 **4** Do you see that?

15:27:52 **5 A.** I do.

15:27:53 **6 Q.** Okay. The last sentence you say, "...it has

15:27:56 **7** been reported that surgical site infection rates have

15:27:58 **8** fallen over time during the use of Bair Hugger."

15:28:00 **9** Correct? I read that correctly?

15:28:01 **10 A.** Yeah.

15:28:02 **11 Q.** You're talking about superficial wound

15:28:04 **12** infections; correct?

15:28:05 **13 A.** They're probably mixed.

15:28:07 **14 Q.** Well we just said there was no study on

15:28:09 **15** periprosthetic joint infections.

15:28:10 **16** MR. COREY GORDON: Object to the form of

15:28:12 **17** the question.

15:28:14 **18 A.** Yeah. I don't know that they didn't count

15:28:21 **19** -- I mean CDC has rates for hips and --

15:28:21 **20** (Interruption by the reporter.)

15:28:25 **21 A.** -- has rates of infection for total hip

15:28:28 **22** placement, total knee replacement from their national

15:28:31 **23** cohort. And what I cited in the report was if you

15:28:35 **24** look at the trends over time, and they corrected for

15:28:39 **25** some of the comorbidities the best they could, they've

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15:28:42 **1** actually shown a decline, something like 27 to 43

15:28:45 **2** percent depending on one's hips, one's knees.

15:28:49 **3 Q.** Are you aware of the -- the Parvizi studies

15:28:53 **4** regarding the economic burden of periprosthetic joint

15:28:55 **5** infections?

15:28:56 **6 A.** I think so. I don't remember exactly what

15:28:57 **7** number he came up with, but.

15:29:01 **8 Q.** Well you know that Dr. Parvizi has looked at

15:29:04 **9** this issue; correct?

15:29:05 **10 A.** Yeah.

15:29:05 **11** MR. COREY GORDON: Object to the form of

15:29:07 **12** the question.

15:29:07 **13** MR. ASSAAD: Basis?

15:29:08 **14** MR. COREY GORDON: What is "this issue"?

15:29:10 **15** You've just -- You've had a whole line of questions

15:29:12 **16** where you're asking him about the trends, and then

15:29:13 **17** you switch gears and then you say he's -- Parvizi has

15:29:18 **18** looked at "this issue."

15:29:21 **19** BY MR. ASSAAD:

15:29:25 **20 Q.** Doctor, you knew what I was talking about

15:29:27 **21** when I said "this issue"; correct?

15:29:29 **22 A.** I did.

15:29:29 **23** MR. COREY GORDON: Object to the form of

15:29:30 **24** the question, lack of foundation.

15:29:31 **25 Q.** We were talking about infection rates;

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15:29:33 **1** correct?

15:29:34 **2** **A.** Yes.

15:29:34 **3** **Q.** And Dr. Parvizi has looked at infection

15:29:37 **4** rates over time.

15:29:37 **5** **A.** And he showed, yeah, a fall.

15:29:40 **6** **Q.** You believe he saw -- he's seen a fall?

15:29:42 **7** **A.** That's what he said.

15:29:43 **8** **Q.** When did he say this?

15:29:44 **9** **A.** In a paper.

15:29:45 **10** **Q.** Okay.

15:29:46 **11** **A.** Can we pull it out?

15:29:48 **12** **Q.** Are you familiar with a paper titled

15:30:02 **13** *Economic Burden of Periprosthetic Joint Infections in*

15:30:05 **14** *the United States*, authored by Steven Kurtz, Evan Lau,

15:30:10 **15** Heather Watson, Jordan Schmier and Javad Parvizi?

15:30:15 **16** **A.** I don't think I -- I don't remember it.

15:30:17 **17** That's -- I may have read it, I don't remember.

15:30:19 **18** **Q.** Published in 2011?

15:30:20 **19** **A.** Yeah, I don't remember it.

15:30:23 **20** **Q.** I'm sorry. 2012.

15:30:27 **21** **A.** I don't remember it.

15:30:40 **22** **Q.** What Parvizi article are you referring to

15:30:43 **23** that says he reduced -- reduction of infection?

15:30:46 **24** **A.** Let me see if I can find it. (Witness

15:30:56 **25** reviewing exhibit.) Oh, I was thinking -- it's the

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15:30:59 **1** Rasouli paper, but I was thinking he was a co-author.

15:31:03 **2** **Q.** What page are you looking at, sir?

15:31:05 **3** **A.** So page 13.

15:31:06 **4** **Q.** What paragraph?

15:31:08 **5** **A.** It's Roman numeral vi. And if Parvizi

15:31:24 **6** wasn't part of that study then that's my mistake, but

15:31:29 **7** Rasouli is actually the first author.

15:31:41 **8** **Q.** Mohammad Rasouli?

15:31:43 **9** **A.** I think that's right.

15:31:49 **10** **Q.** Okay. Did you look at what ICD-9 codes they

15:31:56 **11** looked at in formulating this opinion?

15:31:58 **12** **A.** I saw them, but I don't memorize those or

15:32:02 **13** anything, yeah.

15:32:02 **14** **Q.** Okay. You could look them up, though;

15:32:03 **15** correct?

15:32:04 **16** **A.** I could have, yeah.

15:32:05 **17** **Q.** Okay. And you didn't do that in this case;

15:32:06 **18** correct?

15:32:07 **19** **A.** No.

15:32:07 **20** **Q.** Okay. And if you look at --

15:32:23 **21** What do you think the infection rate is for

15:32:24 **22** primary total hip or total knee infections in the

15:32:28 **23** United States currently?

15:32:29 **24** **A.** Currently?

15:32:30 **25** **Q.** Uh-huh.

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15:32:30 **1** **A.** My estimate is probably one percent or so.

15:32:33 **2** **Q.** Okay. So if that's the case, and I think

15:32:36 **3** that might be acceptable, Rasouli is only showing .2

15:32:42 **4** percent infection rates for primary hip or primary

15:32:45 **5** knee. That sounds very low; doesn't it?

15:32:47 **6** **A.** It does seem --

15:32:48 **7** MR. COREY GORDON: Object to the form of

15:32:49 **8** the question.

15:32:49 **9** **Q.** That seems very low, doesn't it, sir?

15:32:51 **10** **A.** It seems low.

15:32:52 **11** **Q.** Okay. Would that cause you any concern to

15:32:54 **12** see what -- to check to see how he calculated his

15:32:55 **13** infection rate?

15:32:56 **14** **A.** It's one paper.

15:32:57 **15** **Q.** Okay. And there's two papers by Dr. Parvizi

15:33:00 **16** that you have not looked at; correct?

15:33:03 **17** MR. COREY GORDON: Object to the form of

15:33:03 **18** the question.

15:33:04 **19** **A.** Don't remember which ones I didn't look at.

15:33:06 **20** Are they the ones you were talking about earlier?

15:33:07 **21** **Q.** Yes.

15:33:07 **22** **A.** Yeah.

15:33:07 **23** **Q.** The economic burden ones.

15:33:09 **24** **A.** Yeah, I don't remember that.

15:33:10 **25** **Q.** Okay. You also have an opinion that the

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15:34:24 **1** number of health professionals in an operating room

15:34:27 **2** had no significant influence on bacterial counts in

15:34:30 **3** the operating room; correct?

15:34:32 **4** **A.** What page you looking at?

15:34:33 **5** **Q.** 16.

15:34:39 **6** **A.** Sixteen?

15:34:40 **7** **Q.** Yeah.

15:34:42 **8** **A.** Under "Summary"?

15:34:47 **9** **Q.** I'm sorry. I'm looking at something else.

15:34:48 **10** I apologize. Withdraw the question.

15:34:50 **11** Okay. Let's go to page 19.

15:35:15 **12** **A.** Yeah.

15:35:17 **13** **Q.** This talks about your hierarchy of Bair

15:35:19 **14** Hugger studies; correct?

15:35:21 **15** **A.** Sure.

15:35:21 **16** **Q.** Okay. Can we agree, with respect to whether

15:35:27 **17** or not the Bair Hugger increases the bacterial load

15:35:33 **18** over the surgical site, that the Melling article is

15:35:38 **19** irrelevant?

15:35:40 **20** MR. COREY GORDON: Object to the form of

15:35:42 **21** the question.

15:35:42 **22** **A.** No, I don't know that I would agree. I

15:35:44 **23** mean, it adds data.

15:35:45 **24** **Q.** Well the Bair Hugger's u -- we're talking

15:35:47 **25** about the Bair Hugger being used perioperatively;

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15:35:50 **1** correct?

15:35:50 **2** **A.** Yeah.

15:35:50 **3** **Q.** And the Melling was pre-warming; correct?

15:35:52 **4** **A.** That's correct.

15:35:53 **5** **Q.** So whether or not -- I mean we're not

15:35:56 **6** looking at pre-warming here, we're looking at

15:36:01 **7** perioperative warming. You understand that; correct?

15:36:04 **8** **A.** I do, and I've cited the paper that says

15:36:07 **9** warming and pre-warming might last up to a couple of

15:36:09 **10** hours.

15:36:10 **11** **Q.** But we're talking about --

15:36:11 **12** Do you understand plaintiffs' allegations

15:36:12 **13** that the Bair Hugger increases the bacterial load over

15:36:16 **14** the surgical site?

15:36:19 **15** **A.** What I remember that you asked me the

15:36:21 **16** hypothesis that I thought they had was that it created

15:36:25 **17** a kind of a dust storm from the floor that came up

15:36:28 **18** over the surgical site, yes.

15:36:30 **19** **Q.** Well let's -- Yeah. So -- So there has to

15:36:33 **20** be a surgical site; correct?

15:36:35 **21** **A.** Yeah.

15:36:36 **22** **Q.** Okay. There's no surgical site or wound

15:36:38 **23** during pre-warming; correct?

15:36:40 **24** **A.** That's true.

15:36:41 **25** **Q.** So with respect to whether or not the Bair  
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15:36:43 **1** Hugger increases the risk of surgical-site infection,

15:36:46 **2** you have to look at studies that deal with the Bair

15:36:49 **3** Hugger being used during perioperative warming;

15:36:52 **4** correct?

15:36:53 **5** **A.** What I would say is if you have pre-warming

15:36:57 **6** and the body stays warm and you avoid all the

15:37:00 **7** vasoconstriction that cooling does, that's a good

15:37:03 **8** thing. Is that -- So maybe I'm not getting close

15:37:05 **9** enough here.

15:37:07 **10** **Q.** Well plaintiffs' allegation for -- just keep

15:37:10 **11** it simple. The Bair Hugger is being used and it

15:37:13 **12** causes increased bacteria over the wound.

15:37:18 **13** **A.** Umm-hmm.

15:37:18 **14** **Q.** Okay? You understand that.

15:37:19 **15** **A.** Yeah.

15:37:20 **16** **Q.** Okay. Melling doesn't deal with

15:37:23 **17** perioperative warming; correct?

15:37:25 **18** **A.** He deals with pre-warming.

15:37:26 **19** **Q.** Okay. So that's a different situation of

15:37:29 **20** what plaintiffs' allegations are in this case.

15:37:32 **21** **A.** Might be technically. I was just trying to

15:37:36 **22** say that the physiology is the same, that's all.

15:37:42 **23** **Q.** Have you looked at the stu -- all the

15:37:48 **24** studies under the Biological Plausibility Studies on

15:37:52 **25** page 20?  
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15:37:53 **1** **A.** Yeah. I have a table on that somewhere that

15:37:55 **2** might make it easier. Maybe it was earlier. (Witness

15:38:05 **3** reviewing exhibit.) Here we go.

15:38:08 **4** **Q.** On page 14?

15:38:09 **5** **A.** Page 14 and 15, yeah.

15:38:11 **6** MR. COREY GORDON: 14 to 15, partly. Oguz

15:38:18 **7** isn't in that table, you discuss that elsewhere.

15:38:23 **8** MR. ASSAAD: Do you want to testify some

15:38:25 **9** more, Mr. -- Mr. Gordon?

15:38:26 **10** MR. COREY GORDON: I'm just trying to --

15:38:28 **11** **Q.** So doctor -- doctor --

15:38:30 **12** MR. COREY GORDON: Go back to 20 and have

15:38:31 **13** him talk about it from there rather than the table.

15:38:36 **14** BY MR. ASSAAD:

15:38:36 **15** **Q.** Doctor, do you know what device was used in

15:38:39 **16** the Zink study, which Bair Hugger device?

15:38:42 **17** **A.** I don't -- No. Don't remember.

15:38:43 **18** **Q.** So you don't know what -- what the airflow

15:38:45 **19** of that device was?

15:38:46 **20** **A.** No.

15:38:46 **21** **Q.** Okay. Don't you think it'd be relevant to

15:38:49 **22** determine whether that study applies to the device

15:38:51 **23** that's being used in this litiga -- being -- in this

15:38:54 **24** litigation?

15:38:55 **25** **A.** Told you I don't know what device they had  
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15:38:56 **1** there.

15:38:56 **2** **Q.** That wasn't my question, sir.

15:38:56 **3** **A.** Yeah.

15:38:58 **4** **Q.** Don't you think knowing what device was

15:38:59 **5** studied is relevant to determine whether that article

15:39:02 **6** is relevant to the device that's being used in this

15:39:06 **7** litigation?

15:39:07 **8** **A.** Could --

15:39:07 **9** MR. COREY GORDON: Object to the form of

15:39:08 **10** the question.

15:39:08 **11** **A.** Yeah, it might be. I don't know.

15:39:10 **12** **Q.** It may be; right?

15:39:11 **13** **A.** Yeah. Yeah. Might be.

15:39:12 **14** **Q.** And you don't know today what device was

15:39:14 **15** used; do you?

15:39:15 **16** **A.** Yeah, I don't.

15:39:15 **17** **Q.** Okay. The Hall -- The Hall is a poster;

15:39:17 **18** correct? A.C. Hall?

15:39:18 **19** **A.** It was.

15:39:19 **20** **Q.** It's not peer reviewed; correct?

15:39:21 **21** **A.** I'm not sure it wasn't peer reviewed, but it

15:39:25 **22** wasn't a peer-reviewed full article.

15:39:28 **23** **Q.** Okay. Well --

15:39:28 **24** (Interruption by the reporter.)

15:39:29 **25** **Q.** And that was in 1991; correct? December 9th  
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15:39:33 **1** --

15:39:33 **2** **A.** Yes. Yes, yes.

15:39:35 **3** **Q.** Do you know what device was used in that

15:39:37 **4** article?

15:39:37 **5** **A.** No, I don't.

15:39:38 **6** **Q.** Okay. So it might be a different device

15:39:41 **7** that is at issue in this litigation; correct?

15:39:43 **8** **A.** I don't know. Might be.

15:39:44 **9** **Q.** Okay. And that would be relevant.

15:39:46 **10** **A.** Might be.

15:39:46 **11** **Q.** Okay. The Huang article, do you know what

15:39:52 **12** device was used in that case?

15:39:54 **13** **A.** No.

15:39:56 **14** **Q.** And do you have any criticisms of these

15:39:58 **15** articles?

15:40:00 **16** **A.** They're small studies, they're not always,

15:40:08 **17** you know, controlled studies. Well they are, I guess.

15:40:11 **18** Well one of them wasn't, the Dirkes study. But mostly

15:40:16 **19** I think they're just small studies that try to look

15:40:22 **20** at, I think, a relevant question.

15:40:26 **21** **Q.** By the way, does it -- do you take into

15:40:28 **22** consideration who funds the studies?

15:40:30 **23** **A.** You have to look at that.

15:40:31 **24** **Q.** Okay. But just because a person funds a

15:40:34 **25** study doesn't mean the study's not a good study;

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15:40:36 **1** correct?

15:40:37 **2** **A.** I would say that's true.

15:40:38 **3** **Q.** Okay. Otherwise, I mean, you would

15:40:42 **4** eliminate most of the studies that are out there

15:40:44 **5** because they're usually financed by a corporation.

15:40:46 **6** **A.** Well I've done a lot of studies funded by

15:40:49 **7** industry, and as I told you, many of them turn out to

15:40:51 **8** be nothing, and I wrote the paper up and kind of read

15:40:55 **9** 'em and weep.

15:40:58 **10** **Q.** And usually good studies -- or corporations,

15:41:01 **11** when they fund a study, should not be involved in the

15:41:06 **12** study; correct?

15:41:09 **13** **A.** Yeah. When I've done studies myself, they

15:41:12 **14** haven't been involved.

15:41:13 **15** **Q.** They should have no editorial review of the

15:41:17 **16** studies.

15:41:17 **17** **A.** Actually, as a courtesy after each of those

15:41:19 **18** studies, most of us would give industry some time

15:41:24 **19** period, like 30 days to look at it. They can make

15:41:28 **20** comments, but we make the final decision.

15:41:30 **21** **Q.** Okay. But you wouldn't give them carte

15:41:34 **22** blanche to make any changes to the --

15:41:36 **23** **A.** Oh, no.

15:41:36 **24** **Q.** Okay. That would be unethical; wouldn't it?

15:41:36 **25** **A.** That'd be --

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15:41:41 **1** Yes.

15:41:41 **2** **Q.** Okay. I mean, look at the Zink study. That

15:41:54 **3** only had eight volunteers; correct?

15:41:56 **4** **A.** That's true.

15:41:57 **5** **Q.** That's a very small study; correct?

15:41:59 **6** **A.** That's true.

15:41:59 **7** **Q.** Okay. If -- When we're looking at bacterial

15:42:03 **8** load with airborne contamination, that is a very

15:42:10 **9** underpowered study; correct?

15:42:11 **10** **A.** It's under --

15:42:12 **11** MR. COREY GORDON: Object to the form of

15:42:13 **12** the question.

15:42:13 **13** **Q.** Very underpowered; correct?

15:42:15 **14** **A.** It's underpowered.

15:42:16 **15** **Q.** Okay. And in fact do you know whether or

15:42:19 **16** not -- I mean, you agree with me, as we stated before,

15:42:22 **17** that the amount of people in the operating room have

15:42:24 **18** an effect on the bacterial load in the operating room;

15:42:26 **19** correct?

15:42:27 **20** **A.** I think they do.

15:42:28 **21** **Q.** Okay. Do you know how many people were in

15:42:31 **22** the operating room when they did this study?

15:42:32 **23** **A.** Don't remember, no.

15:42:33 **24** **Q.** Okay. Because it would be a big difference

15:42:37 **25** if there was only one person, the patient, as compared

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15:42:40 **1** to the patient and six or seven or eight people in the

15:42:42 **2** operating room; correct?

15:42:43 **3** **A.** I think there would be a difference.

15:42:44 **4** **Q.** Okay. And when you do a study you want to

15:42:49 **5** imitate the study as much as possible to what really

15:42:52 **6** happens in real life; correct?

15:42:53 **7** **A.** Yeah, always. Yeah.

15:42:55 **8** **Q.** Okay. Otherwise, I mean, you might get

15:43:00 **9** results, but it's hard to apply those -- the results

15:43:03 **10** to make decisions with respect to clinical care if the

15:43:07 **11** scenarios are not similar; correct?

15:43:10 **12** **A.** It's easier to make results if you have a --

15:43:13 **13** the closer it is to what goes on, no question. But I

15:43:16 **14** wouldn't throw the studies out, if that's part of the

15:43:19 **15** question.

15:43:21 **16** **Q.** Well I don't see you criticizing any of

15:43:23 **17** these studies in here that's saying that they're

15:43:27 **18** underpowered.

15:43:27 **19** **A.** I didn't say that. I just told you they're

15:43:29 **20** underpowered and they're small studies.

15:43:31 **21** **Q.** I understand. And you criticized McGovern

15:43:33 **22** and you criticized all these other studies, but you

15:43:36 **23** don't criticize the studies that 3M relies upon.

15:43:36 **24** MR. COREY GORDON: Object --

15:43:38 **25** **Q.** Why is that, sir?

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15:43:40 **1** MR. COREY GORDON: Object to the form of  
 15:43:40 **2** the question.  
 15:43:40 **3** **Q.** Why is that, sir?  
 15:43:41 **4** MR. COREY GORDON: Object to the form of  
 15:43:43 **5** the question.  
 15:43:44 **6** **A.** I'm very happy to talk about this, you know,  
 15:43:46 **7** but.  
 15:43:47 **8** **Q.** We can talk about it all you want, but I'm  
 15:43:49 **9** saying why in your report you did not criticize or  
 15:43:52 **10** discuss any of the weaknesses in the studies that 3M  
 15:43:55 **11** rely upon.  
 15:43:56 **12** MR. COREY GORDON: Object to the form of  
 15:43:57 **13** the question.  
 15:43:57 **14** **A.** Yeah, I -- I think I took these studies,  
 15:44:00 **15** this is what I found, and collectively they showed  
 15:44:03 **16** nothing in terms of colony-forming units increasing as  
 15:44:08 **17** a result of the Bair Hugger.  
 15:44:09 **18** **Q.** But you would criticize Zink, Hall, Huang,  
 15:44:14 **19** Dirkes, and Moretti as being underpowered, wouldn't  
 15:44:17 **20** you?  
 15:44:17 **21** **A.** So these are small studies, that's true.  
 15:44:19 **22** That's the best data we have.  
 15:44:21 **23** **Q.** Did you criticize them at all and say  
 15:44:23 **24** they're underpowered in the paper?  
 15:44:24 **25** **A.** I didn't do that.

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15:45:14 **1** **A.** It's what?  
 15:45:14 **2** **Q.** That dealt with surgical drapes.  
 15:45:17 **3** **A.** Yes.  
 15:45:19 **4** **Q.** Okay. Did you read the letter to the editor  
 15:45:20 **5** by Farhad Memarzadeh in the Moretti case?  
 15:45:24 **6** **A.** No.  
 15:45:32 **7** **Q.** Any criticism of Avidan besides it's -- it's  
 15:45:35 **8** a small study?  
 15:45:42 **9** **A.** Well, I mean, one of the things you would  
 15:45:44 **10** say is when the plates were directly in the airstream  
 15:45:48 **11** 16 be -- inches below the end of the hose you could  
 15:45:51 **12** argue that you're not really sure what was coming out  
 15:45:56 **13** was from only the hose or the air below. That would  
 15:45:58 **14** be one criticism.  
 15:46:00 **15** **Q.** Okay. You didn't put that in your report;  
 15:46:02 **16** did you?  
 15:46:02 **17** **A.** No, I didn't.  
 15:46:05 **18** **Q.** Okay. You cite to the Oguz study; correct?  
 15:46:26 **19** O-G-U-Z.  
 15:46:26 **20** **A.** Yes. Yes.  
 15:46:28 **21** **Q.** Any criticism of that study?  
 15:46:29 **22** **A.** It was pretty good. He randomized people,  
 15:46:32 **23** there were 80 orthopedic patients, and he looked at  
 15:46:37 **24** the influence of either device on the CFUs and found  
 15:46:42 **25** none.

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15:44:25 **1** **Q.** That's not being objective, sir, is it?  
 15:44:27 **2** **A.** I think I --  
 15:44:27 **3** MR. COREY GORDON: Object to the form of  
 15:44:28 **4** the question.  
 15:44:28 **5** **Q.** That's not being objective, sir, is it?  
 15:44:29 **6** **A.** I think I'm fine with this.  
 15:44:31 **7** **Q.** Oh, you're fine with that, okay.  
 15:44:32 **8** **A.** Yeah.  
 15:44:33 **9** **Q.** That wasn't my question.  
 15:44:33 **10** Is that being objective?  
 15:44:34 **11** MR. COREY GORDON: Object to the form of  
 15:44:36 **12** the question. Move to strike counsel's snide  
 15:44:39 **13** comment.  
 15:44:52 **14** **Q.** You cite Avidan; correct?  
 15:44:55 **15** **A.** Yes. On the next page, 15.  
 15:44:57 **16** **Q.** That was a small study as well; correct?  
 15:44:59 **17** **A.** It was a small study.  
 15:45:00 **18** **Q.** Okay. And you don't know what device was  
 15:45:04 **19** used in that case; do you?  
 15:45:05 **20** **A.** No, I don't.  
 15:45:05 **21** **Q.** And Occhipinti, you don't know what device  
 15:45:09 **22** was used in that case; correct?  
 15:45:10 **23** **A.** Don't know what device.  
 15:45:11 **24** **Q.** And that dealt with surgical drapes;  
 15:45:13 **25** correct?

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15:46:49 **1** **Q.** "Found none"?  
 15:46:50 **2** **A.** Huh?  
 15:46:50 **3** **Q.** "Found none"?  
 15:46:51 **4** **A.** No influence.  
 15:46:52 **5** **Q.** So you wouldn't agree with me that if you  
 15:46:54 **6** looked at the comparison between the Bair Hugger and  
 15:46:56 **7** the HotDog in the Oguz study that there was an  
 15:47:00 **8** increase in bacterial load using the Bair Hugger over  
 15:47:02 **9** the HotDog?  
 15:47:03 **10** MR. COREY GORDON: Object to the form of  
 15:47:05 **11** the question, mischaracterizes the evidence.  
 15:47:07 **12** **A.** I mean, what he found at the end using his  
 15:47:09 **13** model, multivariate model, and asked the question,  
 15:47:13 **14** does the individual device actually influence the  
 15:47:18 **15** counts, and he couldn't find it.  
 15:47:27 **16** (Wenzel Exhibit 11 marked for  
 15:47:27 **17** identification.)  
 15:47:27 **18** BY MR. ASSAAD:  
 15:47:35 **19** **Q.** What's been marked as Exhibit 11 is the Oguz  
 15:47:38 **20** article --  
 15:47:41 **21** What's been marked as Exhibit 11 is the Oguz  
 15:47:45 **22** article that was provided to us by Dr. Wenzel today,  
 15:47:49 **23** August 4, 2017, according to a subpoena that was  
 15:47:54 **24** issued to be produced to us by June 21st, but we got  
 15:47:59 **25** it today.

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15:47:59 **1** And it's underlined by Dr. Oguz; is that  
 15:48:02 **2** correct?  
 15:48:04 **3** **A.** Underlined by me?  
 15:48:05 **4** **Q.** Yes.  
 15:48:05 **5** **A.** Yeah.  
 15:48:06 **6** **Q.** Okay. Can I have that back, please?  
 15:48:07 **7** **A.** Sure. (Handing.)  
 15:48:08 **8** **Q.** Now what you didn't underline here was the  
 15:48:13 **9** statement by the authors that, this study may  
 15:48:16 **10** obviously not be generalized for an overall safety  
 15:48:19 **11** statement on forced-air warming, and is primarily  
 15:48:23 **12** applicable in the particular surgical setup.  
 15:48:26 **13** You didn't underline that; did you?  
 15:48:27 **14** **A.** No.  
 15:48:28 **15** **Q.** Okay. That's a pretty important statement  
 15:48:30 **16** by the authors; isn't it?  
 15:48:31 **17** MR. COREY GORDON: Object to the form of  
 15:48:32 **18** the question, lack of foundation.  
 15:48:34 **19** **A.** Where am I looking here?  
 15:48:38 **20** **Q.** (Indicating.) Right after you stopped  
 15:48:40 **21** underlining up here.  
 15:48:41 **22** **A.** Right there? (Witness reviewing exhibit.)  
 15:48:49 **23** So you're saying "only the maximum number of health  
 15:48:52 **24** professionals" --  
 15:48:53 **25** **Q.** No. Over here, sir. Right after this  
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15:48:55 **1** underline here. [Indicating.]  
 15:48:56 **2** **A.** Oh, this one. Okay. (Witness reviewing  
 15:49:05 **3** exhibit.)  
 15:49:05 **4** It might not. So I think that -- I think  
 15:49:11 **5** good authors will try to look and give their own  
 15:49:14 **6** critique of potential shortcomings.  
 15:49:17 **7** **Q.** Okay. Now let's look at the table  
 15:49:19 **8** underneath there that looked at the multivariate  
 15:49:23 **9** analysis.  
 15:49:25 **10** Do you agree with me for four out of the six  
 15:49:29 **11** plates that there is a higher incident of bacteria  
 15:49:34 **12** when forced-air warming was used as compared to when  
 15:49:37 **13** forced-air warming was not used, or when the HotDog  
 15:49:39 **14** was used?  
 15:49:42 **15** **A.** Where is this?  
 15:49:43 **16** **Q.** Table 2.  
 15:49:44 **17** **A.** Oh, I'm sorry. It's these?  
 15:49:45 **18** **Q.** Yeah. The second line down.  
 15:49:47 **19** **A.** Okay. (Witness reviewing exhibit.) So what  
 15:50:07 **20** are you -- Make sure that I know what you're looking  
 15:50:09 **21** -- what numbers.  
 15:50:10 **22** **Q.** Let me read it out loud for you.  
 15:50:11 **23** **A.** Yeah. Go ahead.  
 15:50:12 **24** **Q.** Table 2 is the results of a multivariate  
 15:50:15 **25** analysis of factors; correct?

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15:50:16 **1** **A.** Yeah. Yeah.  
 15:50:16 **2** **Q.** And that's what you were talking about;  
 15:50:17 **3** correct?  
 15:50:18 **4** **A.** I am.  
 15:50:18 **5** **Q.** And it looked at the presence of forced-air  
 15:50:21 **6** warming; right? On plate 1 it was 1.13; on plate 2 it  
 15:50:26 **7** was 1.07, and you even highlighted it in blue; plate 3  
 15:50:30 **8** is 1.30; plate 4 is 1.55; and plate 5 and 6 are 1.0.  
 15:50:36 **9** Is that correct?  
 15:50:37 **10** **A.** Let me look. In the "absence of laminar  
 15:50:43 **11** flow," you're looking at that, or the "presence of  
 15:50:44 **12** forced air warming"?  
 15:50:45 **13** **Q.** "Presence of forced air warming."  
 15:50:46 **14** **A.** Yeah, that's correct.  
 15:50:47 **15** **Q.** So with the presence of forced-air warming  
 15:50:49 **16** there was an increase in bacterial load over the  
 15:50:52 **17** surgical site.  
 15:50:53 **18** MR. COREY GORDON: Object to the form of  
 15:50:54 **19** the question.  
 15:50:54 **20** **Q.** That's what those numbers mean; correct?  
 15:50:57 **21** For four out of the six plates.  
 15:50:59 **22** **A.** Oh, I see what you're saying. Yes.  
 15:51:00 **23** **Q.** Okay.  
 15:51:01 **24** **A.** For four out of the six, yeah.  
 15:51:03 **25** **Q.** Okay. And you are aware that the -- only  
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15:51:47 **1** one surgery dealt with total knee replacement.  
 15:51:50 **2** **A.** I think that's right.  
 15:51:51 **3** **Q.** Okay. Most of them were short surgeries;  
 15:51:54 **4** correct?  
 15:51:54 **5** **A.** Yes.  
 15:51:55 **6** MR. COREY GORDON: Object to the form of  
 15:51:55 **7** the question.  
 15:52:13 **8** **Q.** Let's move on to page --  
 15:52:55 **9** Go to page 34 [Exhibit 1].  
 15:53:20 **10** (Discussion off the stenographic record.)  
 15:53:20 **11** MR. ASSAAD: Let's take a break then.  
 15:53:23 **12** (Recess taken from 3:53 to 4:02 p.m.)  
 16:02:55 **13** BY MR. ASSAAD:  
 16:03:03 **14** **Q.** Ready to continue, doctor?  
 16:03:04 **15** **A.** Sure.  
 16:03:07 **16** **Q.** Now let's look at page 34.  
 16:03:11 **17** **A.** Okay.  
 16:03:12 **18** **Q.** You go over three studies that talk about  
 16:03:14 **19** the nasal colonization of Staph aureus?  
 16:03:27 **20** **A.** Yeah.  
 16:03:28 **21** **Q.** You agree with me that none of those studies  
 16:03:30 **22** looked at the incidence of periprosthetic joint  
 16:03:34 **23** infection; correct?  
 16:03:37 **24** **A.** Let me see where I am here. (Witness  
 16:03:47 **25** reviewing exhibit.) You're sure Kalmeijer? I just

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16:03:51 **1** can't remember exactly.  
 16:03:52 **2** Do you have that paper, just remind me.  
 16:04:11 **3 Q.** I do have Kalmeijer, I only have one copy.  
 16:04:13 **4** You don't have it with you?  
 16:04:14 **5 A.** No. I don't have anything.  
 16:04:16 **6 Q.** Okay. Well actually, let's look --  
 16:04:21 **7** MR. COREY GORDON: He might in the box, if  
 16:04:23 **8** not what's up there.  
 16:04:23 **9 A.** Yeah, I don't know.  
 16:04:25 **10 Q.** Let's look at Kalmeijer, which is the  
 16:04:26 **11** surgical site in -- you can use my copy --  
 16:04:28 **12** surgical-site infections in orthopedic surgeries.  
 16:04:31 **13** Is that the paper you're referring to?  
 16:04:32 **14 A.** Yeah.  
 16:04:33 **15 Q.** Okay.  
 16:04:33 **16 A.** Is it -- If it's not joints, I just wanted  
 16:04:37 **17** to make sure. I thought it included --  
 16:04:39 **18 Q.** Actually, if you look at the page that looks  
 16:04:41 **19** at the number of patients, --  
 16:04:42 **20 A.** Yeah?  
 16:04:44 **21 Q.** -- you can see that in -- when mupirocin is  
 16:04:49 **22** used --  
 16:04:50 **23 A.** Mupirocin, right.  
 16:04:51 **24 Q.** -- there were zero infections; correct?  
 16:04:54 **25 A.** Yeah.

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16:05:44 **1** any effect on periprosthetic joint infection?  
 16:05:48 **2 A.** Well I showed you the data from Chen, and in  
 16:05:53 **3** the articles I even had the graph, I think, related to  
 16:05:55 **4** that.  
 16:05:55 **5 Q.** I'm talking about page --  
 16:05:56 **6 A.** They were mixed --  
 16:05:57 **7 Q.** Okay.  
 16:05:58 **8 A.** -- deep and superficial, but they were  
 16:06:01 **9** prosthetic joints.  
 16:06:02 **10 Q.** Those were the types of surgeries; correct?  
 16:06:05 **11 A.** Yeah. Is that what you want?  
 16:06:06 **12 Q.** No. But the difference is whether or not it  
 16:06:08 **13** caused a superficial wound infection or a  
 16:06:10 **14** periprosthetic joint infection. And there's no data  
 16:06:13 **15** that having colonization of Staph in your nose has an  
 16:06:20 **16** effect on periprosthetic joint infection; correct?  
 16:06:24 **17 A.** Yeah, I -- Again, Chen. Let's look at that,  
 16:06:27 **18** because I thought --  
 16:06:29 **19** Where do I have that in my notes? He has --  
 16:06:32 **20 Q.** What page are you referring to?  
 16:06:33 **21 A.** Well I'm trying to find it. Maybe it was  
 16:06:42 **22** earlier. (Witness reviewing exhibit.) Sorry I'm  
 16:07:10 **23** taking so long.  
 16:07:16 **24 Q.** Why don't you look at page 65?  
 16:07:19 **25 A.** 65?

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16:04:54 **1 Q.** And then when the placebo is used there was  
 16:04:57 **2** only one infection; correct?  
 16:04:58 **3 A.** Yes.  
 16:04:59 **4 Q.** That's not --  
 16:05:00 **5 A.** Deep infection.  
 16:05:01 **6 Q.** Yeah. And we're talking about deep  
 16:05:02 **7** infections; correct?  
 16:05:03 **8 A.** Yes.  
 16:05:03 **9 Q.** That's not statistically significant; is it?  
 16:05:05 **10 A.** I don't think so.  
 16:05:06 **11 Q.** Okay. So would it be fair to say that if  
 16:05:10 **12** you used --  
 16:05:12 **13** Is it mupirocin?  
 16:05:13 **14 A.** Mupirocin, yeah.  
 16:05:14 **15 Q.** -- mupirocin, that there is no data that  
 16:05:16 **16** indicates that it would statistically impact deep  
 16:05:21 **17** joint infections?  
 16:05:21 **18 A.** In that study.  
 16:05:22 **19 Q.** In that study, okay.  
 16:05:24 **20** And you consider this study authoritative;  
 16:05:26 **21** correct?  
 16:05:26 **22 A.** Yes.  
 16:05:27 **23 Q.** Okay. What about the other studies? Do you  
 16:05:30 **24** agree with me that none of them found that nasal --  
 16:05:39 **25** nasal colonization of Staph -- of Staphylococcus had

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16:07:20 **1 Q.** You talk about Chen, et al, Clinical  
 16:07:22 **2** Orthopedic?  
 16:07:23 **3 A.** Yeah.  
 16:07:23 **4 Q.** Yeah. Page 65.  
 16:07:28 **5 A.** No, that's not right; is it?  
 16:07:32 **6 Q.** I'm sorry. Sixty-four.  
 16:07:34 **7 A.** Yeah, that's right. Okay. Thank you.  
 16:07:38 **8** So, let's see. (Witness reviewing exhibit.)  
 16:07:46 **9** What I remember that the study said is they mixed  
 16:07:55 **10** superficial and deep in their review of the literature  
 16:08:00 **11** because it wasn't always clear. So it might be a mix  
 16:08:04 **12** of some of these.  
 16:08:06 **13 Q.** So sitting here today there is no evidence  
 16:08:09 **14** or data that indicates having colonization of Staph in  
 16:08:14 **15** your nose significantly increases the risk of  
 16:08:17 **16** periprosthetic joint infection; correct?  
 16:08:18 **17** MR. COREY GORDON: Object to the question,  
 16:08:19 **18** mischaracterizes his testimony.  
 16:08:20 **19 A.** Well what I said is there's a mix of -- of  
 16:08:24 **20** periprosthetic joint infections and the more  
 16:08:27 **21** superficial ones in here, and I can't tell you, you  
 16:08:30 **22** know, what proportion.  
 16:08:31 **23 Q.** Okay. So you have no opinion. You can't  
 16:08:33 **24** make the statement today --  
 16:08:34 **25 A.** Oh, I make an opinion, yeah. I mean I would

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16:08:37 **1** -- You're going to surgery? Yeah, I'm going to tell  
 16:08:39 **2** you before you take your hip get the mupirocin.  
 16:08:41 **3** **Q.** I understand that.  
 16:08:42 **4** **A.** That's my opinion.  
 16:08:43 **5** **Q.** There's no data that --  
 16:08:45 **6** I mean the only study that we have that  
 16:08:47 **7** compared the two between a deep joint using --  
 16:08:57 **8** **A.** Mupirocin.  
 16:08:58 **9** **Q.** -- mupirocin and not is the Kalmeijer study;  
 16:09:02 **10** correct?  
 16:09:03 **11** MR. COREY GORDON: Object to the form of  
 16:09:05 **12** the question, mischaracterizes his testimony.  
 16:09:06 **13** **A.** Other -- What I just said, there's a mixture  
 16:09:09 **14** here. I can't take out pure prosthetic joint  
 16:09:12 **15** infections. Is that what you mean? Then I don't have  
 16:09:14 **16** that. It's a mixture of periprosthetic joint  
 16:09:17 **17** infections and the superficial ones, and she has five  
 16:09:21 **18** studies here and they all show 50 percent reduction or  
 16:09:25 **19** more.  
 16:09:25 **20** **Q.** But they -- they might be a 50 percent  
 16:09:27 **21** reduction in just superficial wound infections;  
 16:09:31 **22** correct?  
 16:09:31 **23** **A.** I don't think there were zero prosthetic  
 16:09:33 **24** joint infections in these the way that article was.  
 16:09:35 **25** **Q.** Can you --

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16:09:36 **1** I mean, if you wanted to do a study to look  
 16:09:38 **2** at whether or not mupirocin reduces the incident of  
 16:09:45 **3** periprosthetic joint infections, you have to look at  
 16:09:47 **4** just periprosthetic joint infections; correct?  
 16:09:50 **5** **A.** That's ideal, right.  
 16:09:51 **6** **Q.** Okay. And one study we are aware of looked  
 16:09:54 **7** at that, and that is the Kalmeijer study that you  
 16:09:58 **8** consider authoritative; correct?  
 16:09:59 **9** **A.** Yeah.  
 16:09:59 **10** **Q.** Okay. And they saw no difference between  
 16:10:03 **11** using mupirocin and not with respect to deep joint  
 16:10:07 **12** infections; correct?  
 16:10:08 **13** **A.** That's what they showed.  
 16:10:09 **14** **Q.** And as of right now that is the only data  
 16:10:11 **15** that we have available with respect to deep joint  
 16:10:15 **16** infections. Solely on deep joint infections, not  
 16:10:18 **17** combining everything together.  
 16:10:19 **18** **A.** When you say it that way, "solely," yes.  
 16:10:21 **19** **Q.** Okay. Because when you start looking at  
 16:10:23 **20** superficial wound infections then you really have to  
 16:10:26 **21** look at, you know, you really can't make a -- a -- a  
 16:10:34 **22** reliable opinion with respect to periprosthetic joint  
 16:10:39 **23** infections because for -- it could be possible that  
 16:10:42 **24** you're looking at just a reduction in superficial  
 16:10:45 **25** wound infections; correct?

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16:10:47 **1** MR. COREY GORDON: Object to the form of  
 16:10:48 **2** the question.  
 16:10:48 **3** **A.** Hypothetically, according to that, yeah. I  
 16:10:52 **4** mean, it's --  
 16:10:53 **5** **Q.** Okay. All right.  
 16:11:41 **6** Now you agree -- Let's look at page 38.  
 16:11:51 **7** **A.** Yeah.  
 16:11:54 **8** **Q.** Okay. This is your discussion on your  
 16:11:57 **9** opinions on laminar flow and rates of SSI; correct?  
 16:12:00 **10** **A.** That's true.  
 16:12:02 **11** **Q.** And Lidwell, the Lidwell studies were done  
 16:12:10 **12** in the '80s; correct?  
 16:12:12 **13** **A.** That's right.  
 16:12:13 **14** **Q.** And then the Brandt study was done in --  
 16:12:17 **15** recently; correct? 2008?  
 16:12:22 **16** **A.** 2008 I have the publication.  
 16:12:24 **17** **Q.** Okay. And Gastmeier's 2012; correct?  
 16:12:28 **18** **A.** Gastmeier's two thou -- Yes.  
 16:12:30 **19** **Q.** Okay. Now you would agree with me that  
 16:12:34 **20** during the time that Lidwell was doing his -- his  
 16:12:37 **21** studies, that the -- that the Bair Hugger wasn't used  
 16:12:42 **22** in the operating room; correct?  
 16:12:45 **23** **A.** Yeah, pretty sure it was not.  
 16:12:46 **24** **Q.** Okay. But in the Brandt study and the  
 16:12:48 **25** Gastmeier study you agree with me that the Bair Hugger

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16:12:51 **1** was used or could have been used in the operating  
 16:12:52 **2** room; correct?  
 16:12:54 **3** **A.** I would say "could have." I don't know. I  
 16:12:56 **4** don't remember.  
 16:12:57 **5** **Q.** Well based on your education, training and  
 16:13:00 **6** experience, and your understanding of the use of the  
 16:13:01 **7** Bair Hugger, can we agree that more likely than not  
 16:13:05 **8** that the Bair Hugger was used --  
 16:13:06 **9** **A.** I think it was --  
 16:13:07 **10** MR. COREY GORDON: Object to the form of  
 16:13:09 **11** the question, lack of foundation.  
 16:13:10 **12** MR. ASSAAD: I didn't finish my question.  
 16:13:11 **13** Can you please wait for me to finish my question?  
 16:13:13 **14** MR. COREY GORDON: Sure.  
 16:13:14 **15** **Q.** Based on your education, training and  
 16:13:16 **16** experience, and your understanding of the Bair Hugger  
 16:13:19 **17** and its use during operations, that more likely than  
 16:13:21 **18** not that the Bair Hugger was used in the surgeries  
 16:13:25 **19** that Brandt and Gastmeier reviewed?  
 16:13:28 **20** MR. COREY GORDON: Object to the form of  
 16:13:30 **21** the question, also lack of foundation.  
 16:13:33 **22** **A.** So two thou -- The Bair Hugger's been in,  
 16:13:36 **23** let's say 25, 30 years, so I would have thought so,  
 16:13:39 **24** but again, I don't know.  
 16:13:40 **25** **Q.** Okay. Are you aware that 3M admits that

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16:13:59 **1** every study that looked at whether or not the Bair  
 16:14:02 **2** Hugger increased particles or hydrogen bubbles over  
 16:14:06 **3** the -- Sorry. Strike that.  
 16:14:09 **4** Are you aware that Bair -- 3M admits that  
 16:14:13 **5** every study indicates that whether you looked at  
 16:14:18 **6** hydrogen or particles, that both were increased when  
 16:14:22 **7** the Bair Hugger was turned on as compared to the Bair  
 16:14:24 **8** Hugger was turned off?  
 16:14:25 **9** MR. COREY GORDON: Object to the form of  
 16:14:26 **10** the question, misstates the evidence.  
 16:14:27 **11** **A.** So I'm not aware that 3M admitted that. No,  
 16:14:30 **12** I'm not aware of that.  
 16:14:33 **13** **Q.** If that is the case, would that cause you  
 16:14:35 **14** any concern that the Bair Hugger increases particles  
 16:14:38 **15** over the surgical site?  
 16:14:40 **16** **A.** What I know now it would cause me no concern  
 16:14:43 **17** because all the studies that get closer, looking at  
 16:14:46 **18** CFUs, can't show that.  
 16:14:50 **19** **Q.** Well are you aware of the Stocks article  
 16:14:52 **20** that did a correlation between CFUs greater than 10  
 16:14:56 **21** microns and --  
 16:14:56 **22** **A.** Yes.  
 16:14:57 **23** **Q.** -- and --  
 16:14:58 **24** **A.** I'm sorry.  
 16:14:59 **25** **Q.** -- and CFUs?

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16:15:00 **1** **A.** Yes.  
 16:15:01 **2** **Q.** Do you agree with that study?  
 16:15:02 **3** **A.** Yes.  
 16:15:03 **4** **Q.** Okay. Page 46.  
 16:16:44 **5** I just want to understand your CDC NNIS  
 16:16:47 **6** score.  
 16:16:48 **7** **A.** Yeah.  
 16:16:49 **8** **Q.** And I guess you look -- to determine the  
 16:16:52 **9** risk factor for a surgical site risk, one of the  
 16:16:55 **10** things you can look at is an NNIS score; correct?  
 16:17:00 **11** **A.** Yes.  
 16:17:00 **12** **Q.** Okay. And when you talk about the  
 16:17:01 **13** surgical-site infection risk, do you know whether or  
 16:17:04 **14** not the CDC is referring to a superficial wound  
 16:17:06 **15** infection or a periprosthetic joint infection?  
 16:17:08 **16** **A.** I don't know for sure.  
 16:17:11 **17** **Q.** Well that would be --  
 16:17:12 **18** Since we're talking about, in this case,  
 16:17:14 **19** periprosthetic joint infections, that would be  
 16:17:15 **20** relevant; correct?  
 16:17:16 **21** **A.** Yeah.  
 16:17:17 **22** **Q.** Okay. Now if you look at the criteria --  
 16:17:25 **23** Well what's your understanding of the length  
 16:17:27 **24** of time of a -- a -- and I might have asked you  
 16:17:29 **25** this -- a length of time for a total hip or total

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16:17:32 **1** knee?  
 16:17:33 **2** **A.** I think they're around two hours.  
 16:17:35 **3** **Q.** Okay. So you agree with me that most likely  
 16:17:39 **4** the last criteria you offer one point for if op time  
 16:17:39 **5** exceeds the seventieth percentile for that procedure,  
 16:17:49 **6** or greater than three hours for a joint --  
 16:17:49 **7** (Interruption by the reporter.)  
 16:17:49 **8** **Q.** -- if op time exceeds the 75th percentile  
 16:17:53 **9** for that procedure, or greater than three hours for  
 16:17:55 **10** the joint replacement, that we could probably  
 16:17:58 **11** eliminate greater than three hours as one of the  
 16:18:01 **12** criteria that would be -- apply to total hip and total  
 16:18:04 **13** knee.  
 16:18:04 **14** MR. COREY GORDON: Object to the form of  
 16:18:04 **15** the question, --  
 16:18:04 **16** **A.** These --  
 16:18:05 **17** MR. COREY GORDON: -- lack of foundation.  
 16:18:05 **18** **A.** These are not my criteria, these are, you  
 16:18:08 **19** know, CDC's, and I don't think today there would be  
 16:18:10 **20** that many patients who would have more than three  
 16:18:13 **21** hours.  
 16:18:14 **22** **Q.** Okay. And we could agree that for total hip  
 16:18:16 **23** and total knee it's not a contaminated or dirty  
 16:18:19 **24** surgery; correct?  
 16:18:20 **25** **A.** Yes. It's a clean surgery.

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16:18:22 **1** **Q.** Okay. And the ASA score is based on the  
 16:18:27 **2** patient; correct?  
 16:18:28 **3** **A.** It is.  
 16:18:30 **4** **Q.** Okay. Now where it says, "if op time  
 16:18:32 **5** exceeds the 75th percentile for that procedure," is  
 16:18:36 **6** there somewhere I could look at to see what the -- the  
 16:18:39 **7** time for each type of procedure is?  
 16:18:41 **8** **A.** I think there is, but I -- I don't know the  
 16:18:45 **9** CDC reference for that, though.  
 16:18:47 **10** **Q.** Okay. Looking at the bottom, the odds ratio  
 16:19:11 **11** of the variables.  
 16:19:12 **12** **A.** Yeah.  
 16:19:13 **13** **Q.** Why is it if you have private insurance  
 16:19:15 **14** you're less likely to get a surgical-site infection?  
 16:19:19 **15** **A.** My guess is that it's a surrogate for  
 16:19:23 **16** healthier people who are less likely to have some of  
 16:19:26 **17** the other comorbidities. I don't know the answer, but  
 16:19:28 **18** that's my thought.  
 16:20:01 **19** **Q.** Go to page 49.  
 16:20:04 **20** **A.** Okay.  
 16:20:05 **21** **Q.** You write: "Of interest, there were no  
 16:20:08 **22** prosthetic joint infections...among diabetics who were  
 16:20:12 **23** not obese..."  
 16:20:14 **24** Did I read that correctly?  
 16:20:16 **25** **A.** You did.

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16:20:16 **1** **Q.** So would you agree with me that the mere  
 16:20:18 **2** fact that you have diabetes, that it does not increase  
 16:20:24 **3** the risk of periprosthetic joint infection?  
 16:20:27 **4** **A.** No, I wouldn't. This is this study, and  
 16:20:29 **5** that's what I would cite to say in that study that's  
 16:20:31 **6** what they found.  
 16:20:32 **7** **Q.** Okay. Well what's your opinion, sir?  
 16:20:35 **8** **A.** I think diabetes is a risk factor.  
 16:20:36 **9** **Q.** Okay. So you disagree with the --  
 16:20:36 **10** **A.** I do.  
 16:20:37 **11** **Q.** -- the results of the study.  
 16:20:38 **12** **A.** I do.  
 16:20:40 **13** **Q.** Okay. But you cited this study in your  
 16:20:42 **14** report.  
 16:20:42 **15** **A.** Sure. I told you I'm trying to show you  
 16:20:45 **16** everything I have.  
 16:21:32 **17** **Q.** And you would consider obese a BMI greater  
 16:21:35 **18** than 30; correct?  
 16:21:35 **19** **A.** Yes.  
 16:21:58 **20** **Q.** And you'd agree with me that there is a big  
 16:22:00 **21** difference with respect to risk factors of  
 16:22:03 **22** surgical-site infections between obese and morbidly  
 16:22:06 **23** obese.  
 16:22:07 **24** **A.** Yeah, I think it's probably worse with  
 16:22:09 **25** morbid obesity, yeah.

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16:22:10 **1** **Q.** And I believe you cited an article you  
 16:22:12 **2** looked at where they looked at the BMI greater than 30  
 16:22:15 **3** and the BMI greater than 40. Is that -- Am I  
 16:22:18 **4** recalling that correctly?  
 16:22:19 **5** **A.** You may. I can't think it -- I don't know  
 16:22:21 **6** what that is right now, but it might be so.  
 16:23:27 **7** **Q.** So I understand that you read many articles  
 16:23:39 **8** and did an extensive literature search with respect to  
 16:23:42 **9** formulating your opinions in this case; correct?  
 16:23:48 **10** **A.** Yes.  
 16:23:49 **11** **Q.** Okay. So when you come to your ultimate  
 16:23:51 **12** opinions, what methodology did you use in doing your  
 16:23:55 **13** review to determine your opinions?  
 16:24:05 **14** **A.** What I think I've done is actually take a  
 16:24:08 **15** look at the hierarchy of all the studies that fell  
 16:24:13 **16** into any one group. So I looked separately at  
 16:24:16 **17** clinical trials, I looked at meta-analysis,  
 16:24:20 **18** case-control studies, cohorts, national trends, and  
 16:24:25 **19** then the data on CFUs as a biological plausibility. I  
 16:24:31 **20** have -- There are 15 studies from there. I looked at  
 16:24:37 **21** the particle studies, which I think are really distant  
 16:24:41 **22** surrogate markers of infection. And then together, I  
 16:24:46 **23** would say, as -- as a complete package, I can't find  
 16:24:53 **24** any, you know, convincing link between the Bair Hugger  
 16:24:59 **25** and harm.

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16:25:01 **1** We can talk about the McGovern study as the  
 16:25:06 **2** one sort of study that stands out until recently.  
 16:25:09 **3** They gave an initial signal, but the more I looked at  
 16:25:14 **4** that study, the more problems I had with it.  
 16:25:30 **5** **Q.** With respect to your methodology to de --  
 16:25:33 **6** Strike that.  
 16:25:33 **7** We've talked about some studies today in  
 16:25:37 **8** which they offered data or opinions that contradict  
 16:25:41 **9** your opinions; correct?  
 16:25:43 **10** **A.** There were some.  
 16:25:44 **11** **Q.** Okay. What was your methodology to de -- in  
 16:25:47 **12** determining which studies you would use to support  
 16:25:50 **13** your opinions and which studies that you would  
 16:25:52 **14** disregard?  
 16:25:55 **15** **A.** I don't know that I would sort of just  
 16:25:57 **16** blatantly disregard anything. I looked at the  
 16:26:00 **17** collective sort of sense within each category, if I  
 16:26:05 **18** could.  
 16:26:05 **19** **Q.** Well, for example, you think that nasal  
 16:26:12 **20** colonization of Staph will have an effect on  
 16:26:15 **21** periprosthetic joint infection, but you disregard the  
 16:26:18 **22** only study that looks at it that says there is no  
 16:26:22 **23** statistically significant difference.  
 16:26:23 **24** MR. COREY GORDON: Object to the form of  
 16:26:24 **25** the question, mischaracterizes his testimony.

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16:26:25 **1** **A.** I think the -- the bulk of data, so many  
 16:26:31 **2** different studies, including orthopedic studies where  
 16:26:33 **3** I gave you from Chen, there is no way that I would  
 16:26:36 **4** want the orthopedic patient not to have nasal  
 16:26:40 **5** mupirocin preoperatively, and that's pretty much the  
 16:26:44 **6** standard around the country.  
 16:26:46 **7** **Q.** Well that's not the standard where Darouiche  
 16:26:47 **8** did his study; correct?  
 16:26:49 **9** MR. COREY GORDON: Object to the form of  
 16:26:50 **10** the question, lack of foundation.  
 16:26:51 **11** **A.** Yeah, I -- I -- he -- that study, no. In  
 16:26:55 **12** terms of that study, he didn't do that, but --  
 16:26:57 **13** **Q.** Okay. So --  
 16:26:58 **14** **A.** -- that wasn't prosthetic joint infections.  
 16:27:01 **15** Are you talking about the first study?  
 16:27:02 **16** **Q.** Yes.  
 16:27:03 **17** **A.** Of the -- Using the antiseptic?  
 16:27:06 **18** **Q.** Yeah.  
 16:27:06 **19** **A.** Yeah, that's -- that's obviously different  
 16:27:09 **20** than prosthetic joints.  
 16:27:11 **21** **Q.** So you would use it for prosthetic joints  
 16:27:12 **22** but not for other surgeries?  
 16:27:15 **23** **A.** Yeah, there -- I -- I think the standards  
 16:27:15 **24** are today, any implant; so orthopedic implant, cardiac  
 16:27:21 **25** implant, and neurosurgery implant, all those people

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16:27:26 **1** should be getting mupirocin and chlorhe -- and  
 16:27:30 **2** chlorhexidine baths.  
 16:27:33 **3** **Q.** And the mupirocin is for the nose; correct?  
 16:27:34 **4** **A.** It is.  
 16:27:35 **5** **Q.** Okay. So that would indicate to me that you  
 16:27:38 **6** are trying to kill the bacteria in the nose so it  
 16:27:43 **7** doesn't become aerosolized; correct?  
 16:27:46 **8** MR. COREY GORDON: Object to the form of  
 16:27:47 **9** the question.  
 16:27:47 **10** **A.** No, that's not the... I'm trying to kill  
 16:27:50 **11** the bacteria in the nose, and if you kill the bacteria  
 16:27:53 **12** in the nose you actually show a markedly reduced  
 16:27:59 **13** bacterial burden in the rest of the body.  
 16:28:00 **14** **Q.** How does that occur?  
 16:28:04 **15** **A.** You know, the joke that I use is think about  
 16:28:06 **16** all the people that touch their nose when they -- you  
 16:28:09 **17** know, during the day, and 30 to 50 percent of people  
 16:28:12 **18** who have Staph aureus in the nose have this on the  
 16:28:16 **19** strai -- on their hands, and when you do fingerprints,  
 16:28:20 **20** 97 percent are the exact same strain. So I don't know  
 16:28:24 **21** for sure, but I think that we all have a lot of  
 16:28:26 **22** contact with our nose and mouth.  
 16:28:28 **23** **Q.** And when do you give the mupirocin to the  
 16:28:30 **24** patient?  
 16:28:31 **25** **A.** Ideally you would have them come into the  
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16:28:34 **1** pre-op center and -- where they get evaluated in  
 16:28:38 **2** general for anesthesia five days before the surgery,  
 16:28:41 **3** and then twice a day for five days.  
 16:28:54 **4** **Q.** So I'm just trying to understand, like, when  
 16:29:20 **5** you look at a -- a peer-reviewed article, what  
 16:29:25 **6** methodology do you have to determine whether or not  
 16:29:28 **7** the article is something that you're going to rely  
 16:29:33 **8** upon and agree with as compared to something that you  
 16:29:35 **9** may not agree with?  
 16:29:38 **10** **A.** Well I could go on for a long time, but I  
 16:29:42 **11** think what I would do is look at the methods section  
 16:29:45 **12** in a very critical way. For example: Did they have a  
 16:29:50 **13** clear hypothesis? Did they have a clear endpoint? If  
 16:29:58 **14** they're counting infections, what was the method of  
 16:30:00 **15** case finding? Was there any validity to the case  
 16:30:04 **16** finding technique? You know what I mean by that?  
 16:30:07 **17** When I say -- I'm going to go back. If they say they  
 16:30:10 **18** found it, was it really a case, or was it a mistake?  
 16:30:15 **19** Was it -- What kind of study was it really; a  
 16:30:17 **20** prospective, a clinical trial, was it observational  
 16:30:22 **21** trial? If it was observational, were the two things  
 16:30:25 **22** that we're interested in looked at concurrently? I'd  
 16:30:31 **23** want to know a little bit about how they, you know,  
 16:30:34 **24** did some power studies, what Alpha was in the study,  
 16:30:42 **25** and the length of follow-up, of course, would be all  
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16:30:47 **1** important things. I'd want to look at what statistics  
 16:30:51 **2** that they used and how they were going to evaluate  
 16:30:54 **3** success or not. And I would hope that they would have  
 16:30:58 **4** not only efficacy, but a safety profile to go along by  
 16:31:04 **5** which you could make a, if you will, risk/benefit  
 16:31:07 **6** compared to an alternative.  
 16:31:09 **7** I could go on for awhile, but I think you  
 16:31:11 **8** got the idea.  
 16:31:12 **9** **Q.** I think I get the idea.  
 16:31:21 **10** MR. ASSAAD: So let's mark this as the next  
 16:31:41 **11** exhibit.  
 16:31:42 **12** (Wenzel Exhibit 12 marked for  
 16:31:43 **13** identification.)  
 16:31:43 **14** (Discussion off the stenographic record.)  
 16:31:46 **15** BY MR. ASSAAD:  
 16:31:47 **16** **Q.** Do you --  
 16:31:48 **17** Have you seen this article before?  
 16:31:50 **18** **A.** I don't know. I'm not sure I have, but.  
 16:31:53 **19** **Q.** I represent to you that it came out of the  
 16:31:55 **20** box of documents that you provided to us today.  
 16:31:57 **21** **A.** Yeah. You know, when you read a lot, I'm  
 16:32:00 **22** not positive. I want to be able to tell you  
 16:32:03 **23** accurately.  
 16:32:03 **24** **Q.** And if you look at a couple pages later, I  
 16:32:06 **25** think the next page, it's actually underlined in  
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16:32:09 **1** certain areas.  
 16:32:09 **2** **A.** Okay. (Witness reviewing exhibit.) Oh, in  
 16:32:16 **3** the "DISCUSSION." What do you want me to tell you?  
 16:32:20 **4** **Q.** I mean, is that your underlining?  
 16:32:22 **5** **A.** Oh yeah, it is.  
 16:32:23 **6** **Q.** Can I look at it real quick, please?  
 16:32:25 **7** **A.** Yeah, sure. (Handing.)  
 16:32:31 **8** **Q.** You highlighted, in the --  
 16:32:48 **9** And what Exhibit 12 is is the article titled  
 16:32:52 **10** *Forced-Air Warming Does Not Worsen Air Quality in*  
 16:32:55 **11** *Laminar Flow Operating Rooms*, authored by Dr. Sessler,  
 16:32:58 **12** Dr. Olmsted and Kuelpmann. Is that correct?  
 16:33:05 **13** **A.** I think they're the authors, yeah. Yeah.  
 16:33:13 **14** **Q.** Why wasn't this article, which is clearly  
 16:33:16 **15** something you reviewed, in -- somewhere in your  
 16:33:19 **16** report?  
 16:33:20 **17** **A.** I don't know. Don't remember.  
 16:33:22 **18** **Q.** Were you told by anyone not to include this  
 16:33:24 **19** article in your report?  
 16:33:25 **20** **A.** First of all, no one's told me anything, and  
 16:33:27 **21** I wouldn't listen anyway.  
 16:33:29 **22** **Q.** Okay. You underline, "Our results are  
 16:33:36 **23** consistent with computational fluid dynamic models  
 16:33:39 **24** that show that properly designed air handling systems  
 16:33:42 **25** combined with natural protective aspects of convective  
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16:33:46 **1** currents up from the patient, are effective in  
 16:33:49 **2** reducing particle concentrations" near surgical --  
 16:33:51 **3** "near the surgical site."  
 16:33:54 **4** **A.** Yeah. That's what he said.  
 16:33:56 **5** **Q.** Well my question is why did you underline  
 16:33:58 **6** that section?  
 16:34:02 **7** **A.** You know, a lot of times I underline things  
 16:34:04 **8** because, one, I don't understand and I want to read it  
 16:34:07 **9** a second time, or I wanted to ask a question from  
 16:34:09 **10** counsel. And as I told you earlier, I'm one of these  
 16:34:13 **11** guys that often underlines, you know, a big chunk of  
 16:34:16 **12** the re -- if you gave me a novel, unfortunately, I'd  
 16:34:20 **13** ask you if you wanted it back because I underline that  
 16:34:23 **14** stuff.  
 16:34:24 **15** **Q.** So sitting here today you don't know why you  
 16:34:26 **16** underlined it?  
 16:34:27 **17** **A.** I don't remember.  
 16:34:28 **18** **Q.** Okay. Now do you recall --  
 16:34:31 **19** You said you've read the Sessler  
 16:34:33 **20** depositions; correct?  
 16:34:34 **21** **A.** I think so. I don't remember a lot of -- I  
 16:34:36 **22** thought I had.  
 16:34:37 **23** **Q.** Do you recall the discussion I had with Dr.  
 16:34:41 **24** Sessler during his deposition regarding his tests?  
 16:34:44 **25** **A.** No, but go ahead. Remind me.  
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16:34:48 **1** **Q.** You haven't seen the raw data for -- for --  
 16:34:50 **2** You haven't seen the raw data for the -- for  
 16:34:53 **3** this study; correct?  
 16:34:54 **4** **A.** Correct.  
 16:34:54 **5** **Q.** Okay. Now just so I understand your  
 16:35:10 **6** opinion, if a device significantly increases particles  
 16:35:19 **7** over the surgical site is it your opinion that the --  
 16:35:37 **8** there is going to be no effect on surgical-site  
 16:35:40 **9** infections?  
 16:35:40 **10** MR. COREY GORDON: Object to the form of  
 16:35:43 **11** the question, also incomplete hypothetical.  
 16:35:44 **12** **A.** You know, I hate to say "always" or "never,"  
 16:35:47 **13** I've told you that today. So I'd hate to say "never,  
 16:35:51 **14** ever." But in general for me to think that particles  
 16:35:56 **15** are really important would be if that was linked  
 16:35:59 **16** directly in some way to surgical-site infections and  
 16:36:03 **17** not just be a surrogate marker.  
 16:36:06 **18** **Q.** You agree with me that Stocks linked  
 16:36:08 **19** particles to bacteria for particles greater than 10  
 16:36:12 **20** microns; correct?  
 16:36:12 **21** **A.** He did. I agreed.  
 16:36:13 **22** **Q.** And you agree that Darouiche linked CFUs to  
 16:36:20 **23** -- the -- the amount of CFUs to periprosthetic joint  
 16:36:25 **24** infections; correct?  
 16:36:25 **25** MR. COREY GORDON: Object to the form of  
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16:36:26 **1** the question.  
 16:36:26 **2** **A.** Yeah. That was his link, yes.  
 16:36:30 **3** **Q.** And you agree with that?  
 16:36:31 **4** **A.** Yeah.  
 16:36:32 **5** (Interruption by the reporter.)  
 16:36:32 **6** **A.** His link, yeah.  
 16:36:32 **7** **Q.** Okay. So if you're looking at just 10  
 16:36:35 **8** micron particles, would you agree with me that an  
 16:36:37 **9** increase in 10 micron particles over the surgical site  
 16:36:40 **10** would increase the risk of periprosthetic joint  
 16:36:42 **11** infection?  
 16:36:43 **12** MR. COREY GORDON: Object to the form of  
 16:36:44 **13** the question, incomplete hypothetical.  
 16:36:46 **14** **A.** That's the question that we're trying to get  
 16:36:48 **15** at, and I don't think we have conclusive information  
 16:36:52 **16** that particles equal infections.  
 16:36:54 **17** **Q.** Are you looking for a hundred percent  
 16:36:55 **18** certainty?  
 16:36:56 **19** **A.** I never look for a hundred percent, sir.  
 16:36:59 **20** **Q.** Well do you remember back in, maybe it was  
 16:37:04 **21** high school, we had to learn logic? Remember that?  
 16:37:08 **22** **A.** Yeah. I took a college, not high school  
 16:37:11 **23** course, in logic.  
 16:37:12 **24** **Q.** Okay. You know, if you -- A -- you know, if  
 16:37:15 **25** A equals B and B equals C, then A could equal C?  
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16:37:19 **1** **A.** I know what you're getting at.  
 16:37:20 **2** **Q.** You remember that?  
 16:37:21 **3** **A.** Yeah.  
 16:37:21 **4** **Q.** Okay. So --  
 16:37:21 **5** MR. COREY GORDON: Socrates was a man.  
 16:37:25 **6** **Q.** So if -- if Stocks linked particles over 10  
 16:37:31 **7** microns to bacterial load, and Darouiche linked  
 16:37:41 **8** bacterial load to periprosthetic joint infections, and  
 16:37:46 **9** I understand you have an issue with where is that  
 16:37:51 **10** bacteria coming from, but based on those two studies,  
 16:37:53 **11** and logic, do you not agree that if 10 micron  
 16:37:57 **12** particles increase over the surgical site there is  
 16:38:00 **13** going to be an increase in periprosthetic joint  
 16:38:02 **14** infections?  
 16:38:02 **15** MR. COREY GORDON: Object to the form of  
 16:38:03 **16** the question, also lack of foundation, incomplete  
 16:38:06 **17** hypothetical.  
 16:38:08 **18** **A.** Well I like the logic part, but if you're  
 16:38:12 **19** talking about Darouiche's study based on four  
 16:38:16 **20** infections, even he says we need to go back and get a  
 16:38:21 **21** much bigger study to see if this is real. That's  
 16:38:24 **22** my -- my recollection of what he did in the  
 16:38:27 **23** discussion.  
 16:38:28 **24** No one's going to take that kind of study  
 16:38:31 **25** and make a blanket statement about all surgeries.  
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16:38:34 **1 Q.** But you, sitting here, cannot say that my  
 16:38:38 **2** statement is not true; correct?  
 16:38:42 **3 A.** I --  
 16:38:42 **4 MR. COREY GORDON:** Object to the form of  
 16:38:43 **5** the question.  
 16:38:44 **6 A.** I don't think it's true. I think it's -- we  
 16:38:46 **7** need a lot more information for your statement --  
 16:38:46 **8 Q.** Okay.  
 16:38:49 **9 A.** -- to be right, unless you're making it  
 16:38:52 **10** totally hypothetical.  
 16:38:53 **11 Q.** I didn't ask you if it was true.  
 16:38:54 **12** You can't offer the opinion that that --  
 16:38:57 **13** that that progression between Stocks and Darouiche and  
 16:39:05 **14** particles over 10 microns can be correlated to  
 16:39:17 **15** periprosthetic joint infections is not true.  
 16:39:19 **16 MR. COREY GORDON:** Object to the form of  
 16:39:20 **17** the question, --  
 16:39:20 **18 Q.** You just want more data.  
 16:39:22 **19 MR. COREY GORDON:** -- in --  
 16:39:23 **20** Object to the form of the question,  
 16:39:24 **21** incomplete hypothetical.  
 16:39:26 **22 A.** Well I want more data, and also, you know,  
 16:39:31 **23** I'd say if you -- Well, let me pause for a second.  
 16:39:37 **24** I'm trying to -- I'm getting a little tired, I think.  
 16:39:40 **25 Q.** Let me withdraw the -- Let me make it a  
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16:39:41 **1** little bit easier, okay, because I know it's a lot of  
 16:39:44 **2** thinking.  
 16:39:44 **3** For example, if Darouiche came out and came  
 16:39:46 **4** up with -- did the same exact study and showed no  
 16:39:49 **5** correlation between CFU load over the surgical site  
 16:39:52 **6** and periprosthetic joint infections, then there would  
 16:39:55 **7** be no need for a further study because that study  
 16:39:58 **8** indicated that it's irrelevant; correct?  
 16:40:01 **9 A.** If a --  
 16:40:01 **10 MR. COREY GORDON:** Object to the form of  
 16:40:02 **11** the question, incomplete hypothetical.  
 16:40:04 **12 A.** If a new study came out, much bigger and  
 16:40:06 **13** showed there's nothing going on, yeah, I think that  
 16:40:09 **14** would be the end, or -- or certainly close.  
 16:40:13 **15 Q.** My point is, further study is needed;  
 16:40:17 **16** correct?  
 16:40:18 **17 A.** For sure.  
 16:40:19 **18 Q.** Okay. And the reason why you think further  
 16:40:21 **19** study is needed, because you can't exclude the fact --  
 16:40:23 **20** the scenario that if you increase 10 micron particles  
 16:40:27 **21** over the surgical site it would have no effect on  
 16:40:32 **22** periprosthetic joint infections.  
 16:40:33 **23 A.** I've seen --  
 16:40:33 **24 MR. COREY GORDON:** Object to the form of  
 16:40:36 **25** the question, incomplete hypothetical.  
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16:40:37 **1 A.** -- just no data that I can say to answer  
 16:40:38 **2** that no, so that's right.  
 16:40:40 **3 Q.** But you can't exclude it either; can you?  
 16:40:42 **4 A.** I can never exclude things that aren't  
 16:40:44 **5** there.  
 16:40:45 **6 Q.** Okay. Especially after the Stocks and  
 16:40:46 **7** Darouiche study; correct?  
 16:40:49 **8 A.** Yeah.  
 16:40:50 **9 Q.** Okay.  
 16:40:50 **10 A.** I mean that's...  
 16:40:51 **11 Q.** Let's talk about heater-cooler.  
 16:40:53 **12 A.** About what?  
 16:40:53 **13 Q.** The heater-cooler.  
 16:40:54 **14 A.** Okay. Sure.  
 16:41:02 **15 Q.** And I believe that's on page 75.  
 16:41:15 **16 A.** Yeah.  
 16:41:22 **17 Q.** Now you understand that the heater-cooler  
 16:41:24 **18** device is not near the surgical table.  
 16:41:28 **19 A.** The device itself is away from the table,  
 16:41:30 **20** yeah.  
 16:41:31 **21 Q.** It's actually probably in the corner of the  
 16:41:33 **22** room.  
 16:41:33 **23 A.** Often far away, yeah.  
 16:41:34 **24 Q.** Okay. And it is -- it has tubes that carry  
 16:41:40 **25** water to either heat or cool down the patient;  
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16:41:42 **1** correct?  
 16:41:43 **2 A.** Yes.  
 16:41:43 **3 Q.** Okay. And the water is --  
 16:41:45 **4** It's a closed system; correct?  
 16:41:47 **5 A.** It's not so closed as -- as what I've heard  
 16:41:50 **6** from our perfusionist.  
 16:41:53 **7** Oh, that part, the tubing is.  
 16:41:54 **8 Q.** Yeah.  
 16:41:55 **9 A.** Yeah, not the tank of water.  
 16:41:57 **10 Q.** Which is -- the tank --  
 16:41:58 **11 A.** I'm sorry.  
 16:41:58 **12 Q.** -- the tank's in the corner of the operating  
 16:42:00 **13** room; correct?  
 16:42:01 **14 A.** The tank is, yeah.  
 16:42:02 **15 Q.** Okay. But the --  
 16:42:02 **16 A.** And they have --  
 16:42:02 **17 Q.** -- tube is closed; correct?  
 16:42:05 **18 A.** -- tubes that -- tubes are closed.  
 16:42:07 **19 Q.** Okay. And it might not -- there might be  
 16:42:08 **20** some leaks or some vapor inside the -- the  
 16:42:11 **21** heater-cooler unit; correct?  
 16:42:13 **22 MR. COREY GORDON:** Object to the form of  
 16:42:14 **23** the question.  
 16:42:14 **24 A.** You're talking about above the tank of  
 16:42:16 **25** water?  
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16:42:16 **1 Q.** Or -- Or inside the heater-cooler unit where  
 16:42:18 **2** the tank is, it might -- there might not be fully  
 16:42:22 **3** closed or there might be some leakage or vapor.  
 16:42:24 **4 MR.** COREY GORDON: Object to the form of  
 16:42:25 **5** the question, also lack of foundation.  
 16:42:26 **6 Q.** Let me ask you this. Why do you -- Why do  
 16:42:28 **7** you not think it's a closed system at the  
 16:42:32 **8** heater-cooler device?  
 16:42:32 **9 A.** Well, I mean, you just open up the thing a  
 16:42:34 **10** little bit, I had the perfusionist show me this when  
 16:42:38 **11** they started to have infections about a year and a  
 16:42:40 **12** half ago, and you can just see this big tank of water.  
 16:42:43 **13 Q.** Okay. And what do you see?  
 16:42:45 **14 A.** And there's a fan right behind it, yeah.  
 16:42:47 **15 Q.** Okay. And -- And you're saying the fan is  
 16:42:50 **16** blowing the water?  
 16:42:51 **17 A.** It's blowing above the water.  
 16:42:53 **18 Q.** Okay. And what does that cause?  
 16:42:54 **19 A.** Aerosol.  
 16:42:55 **20 Q.** Aerosol that could be contaminated?  
 16:42:58 **21 A.** This study they showed that the air  
 16:43:01 **22** contained Mycobacterium chimaera.  
 16:43:01 **23 Q.** Okay. And it actually reached the patient;  
 16:43:09 **24** correct?  
 16:43:09 **25** (Interruption by the reporter.)  
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16:43:09 **1 Q.** And it actually reached the patient;  
 16:43:12 **2** correct?  
 16:43:12 **3 A.** It did.  
 16:43:12 **4 Q.** And so it was an airborne contamination that  
 16:43:15 **5** caused the infection to the patient; correct?  
 16:43:17 **6 A.** Yes.  
 16:43:25 **7 MR.** COREY GORDON: It's actually  
 16:43:34 **8** "Mycobacterium chimaera."  
 16:43:37 **9 THE REPORTER:** Thank you.  
 16:44:23 **10 Q.** You do not dispute the fact that the Bair  
 16:44:27 **11** Hugger harbors bacteria, --  
 16:44:27 **12 MR.** COREY GORDON: Object --  
 16:44:29 **13 Q.** -- the device itself.  
 16:44:31 **14 MR.** COREY GORDON: Object to the form of  
 16:44:32 **15** the question, incomplete hypothetical, lack -- lack  
 16:44:33 **16** of foundation.  
 16:44:34 **17 A.** So there've been some cultures of the tubing  
 16:44:38 **18** that have shown organisms, and some have been swabbed,  
 16:44:44 **19** some have been rinsed, I think, and I think I showed  
 16:44:48 **20** these in my report, everything that -- that I knew  
 16:44:52 **21** about that.  
 16:44:55 **22 Q.** So you don't dispute that the Bair Hugger is  
 16:44:58 **23** contaminated internally.  
 16:44:59 **24 MR.** COREY GORDON: Object to the form of  
 16:45:01 **25** the question.  
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16:45:01 **1 A.** It -- In some studies they found bacteria.  
 16:45:04 **2** It's not sterile.  
 16:45:05 **3 Q.** Okay. And it can't be cleaned; correct?  
 16:45:08 **4 MR.** COREY GORDON: Object to the form of  
 16:45:09 **5** the question, lack of foundation.  
 16:45:10 **6 A.** I've read that, but I don't know, I mean.  
 16:45:13 **7 Q.** Well you've seen the device; correct?  
 16:45:14 **8 A.** Yeah. I have.  
 16:45:16 **9 Q.** Are you aware of anyone that's ever cleaned  
 16:45:18 **10** the inside of the hose of a Bair Hugger?  
 16:45:21 **11 MR.** COREY GORDON: Inside of the hose?  
 16:45:22 **12 MR.** ASSAAD: Inside the hose.  
 16:45:23 **13 MR.** COREY GORDON: Object to the form of  
 16:45:24 **14** the question, lack of foundation.  
 16:45:25 **15 A.** Oh, inside the hose. You're not talking  
 16:45:27 **16** about the -- you know, the blower itself?  
 16:45:30 **17 Q.** The blow --  
 16:45:31 **18** or the blower or anything.  
 16:45:32 **19 A.** Well Bernard, in his study, said he did it  
 16:45:35 **20** because he thought it was important.  
 16:45:38 **21 Q.** Okay. But have you looked at the operating  
 16:45:40 **22** room manual?  
 16:45:42 **23 A.** Have I looked --  
 16:45:43 **24 Q.** Yeah.  
 16:45:43 **25 A.** Oh, no. I haven't looked at that, no.  
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16:45:45 **1 Q.** Why not?  
 16:45:46 **2 A.** I think I had enough to do I guess trying to  
 16:45:50 **3** get this report together, and...  
 16:45:53 **4 Q.** You spent over 300 hours, why not spend  
 16:45:56 **5** another hour on the report -- or looking at the  
 16:45:57 **6** manual?  
 16:45:58 **7 MR.** COREY GORDON: Object to the form of  
 16:46:00 **8** the question.  
 16:46:00 **9 A.** I mean -- I mean, I guess I'm more  
 16:46:01 **10** interested in the infections and the outcomes than,  
 16:46:05 **11** you know, how it worked, and so I didn't look at it.  
 16:46:10 **12 Q.** Do you know the difference between the Model  
 16:46:12 **13** 505 and the Model 750?  
 16:46:16 **14 A.** I understand there was a filter that was  
 16:46:17 **15** different.  
 16:46:17 **16** Do I have the right -- Is that correct? I'm  
 16:46:19 **17** trying to think if I have the right statement.  
 16:46:22 **18 Q.** Well, I'm not going to answer questions.  
 16:46:25 **19** I'm asking you questions.  
 16:46:26 **20 A.** Yeah. No, that's --  
 16:46:27 **21 Q.** Do you know the difference in the airflow?  
 16:46:28 **22 A.** No.  
 16:46:33 **23 Q.** Do you know the difference in the amount of  
 16:46:34 **24** heat it produces?  
 16:46:35 **25 A.** No.  
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16:47:00 **1** **Q.** Do you know what a thermal plume is?

16:47:02 **2** **A.** What is what?

16:47:02 **3** **Q.** A thermal plume.

16:47:04 **4** **A.** No. I would assume it's --

16:47:05 **5** No, I don't know what it is, but.

16:47:19 **6** (Discussion off the stenographic record.)

16:47:26 **7** **Q.** Have you reviewed studies that indicate that

16:47:29 **8** when the Bair Hugger is turned on that it actually

16:47:31 **9** increases the temperature around the surgical table?

16:47:34 **10** **A.** Yes, I think it does.

16:47:36 **11** **Q.** So you agree with that?

16:47:37 **12** **A.** At least some studies have, yeah.

16:47:39 **13** **Q.** You don't dispute that; correct?

16:47:40 **14** **A.** No.

16:47:41 **15** **Q.** And it makes sense; right?

16:47:42 **16** **A.** Makes sense, too.

16:47:44 **17** **Q.** Yeah.

16:48:14 **18** (Discussion off the stenographic record.)

16:48:14 **19** **Q.** And you would agree that that -- that the

16:48:20 **20** Bair Hugger's blowing heat down underneath -- above

16:48:22 **21** the -- like over the patient and then it goes down

16:48:25 **22** towards underneath the operating room table; correct?

16:48:27 **23** MR. COREY GORDON: Object to the form of

16:48:28 **24** the question, lack of foundation.

16:48:29 **25** **A.** I think it goes down, but I'm -- I told you

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16:48:32 **1** earlier I wasn't an expert in aerodynamics and --

16:48:32 **2** **Q.** Okay.

16:48:35 **3** **A.** -- didn't look at all those, you know,

16:48:37 **4** computational studies.

16:49:07 **5** **Q.** You've written many research papers;

16:49:10 **6** correct?

16:49:10 **7** **A.** Yes.

16:49:11 **8** **Q.** Peer-reviewed papers; correct?

16:49:12 **9** **A.** Yes.

16:49:12 **10** **Q.** And do you agree with me that when you do a

16:49:15 **11** study, the paper should include enough methodology in

16:49:21 **12** the methods section so the study could be repeatable;

16:49:23 **13** correct?

16:49:23 **14** **A.** Yes.

16:49:24 **15** **Q.** Okay. And that's how you determine whether

16:49:27 **16** or not the study is reliable; correct?

16:49:29 **17** **A.** Well it helps, yeah.

16:49:31 **18** **Q.** Okay. Because with -- you know,

16:49:33 **19** repeatability is pretty much synonymous with

16:49:36 **20** reliability; correct?

16:49:38 **21** **A.** Yeah, I would think that's reasonable.

16:49:59 **22** **Q.** Now with respect to maintaining

16:50:04 **23** normothermia, you're not advocating for one device

16:50:09 **24** over another; are you?

16:50:14 **25** **A.** In terms of general for the patients to

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16:50:15 **1** remain?

16:50:16 **2** **Q.** Yes.

16:50:17 **3** **A.** No, I'm not. As long as the patients are

16:50:21 **4** warm, I think they'll probably do okay.

16:50:24 **5** **Q.** So just so I understand, you're not here

16:50:27 **6** advocating that the Bair Hugger device is better than

16:50:29 **7** the Mistral device; correct?

16:50:32 **8** **A.** Actually is that the one that's just been

16:50:34 **9** tested by Kurz; is that the Cleveland Clinic?

16:50:38 **10** **Q.** Yes.

16:50:39 **11** **A.** Yeah. Actually they look like they were the

16:50:42 **12** same, but there's actually, as you know, a lower rate

16:50:45 **13** with the Bair Hugger than with the HEPA filter

16:50:49 **14** forced-air warming, it's .44 versus .74 I think.

16:50:53 **15** **Q.** Okay. Any criticism of that study?

16:50:54 **16** **A.** It was a remarkably robust study. You're

16:50:57 **17** talking about 5,000 patients and they did something,

16:51:00 **18** you know, and they have the part of their prospective

16:51:02 **19** cohort, and they did multivariate analysis and they

16:51:06 **20** looked at comorbidities. So a huge study. And with

16:51:12 **21** the Bair Hugger a rate of .44, which I think is

16:51:14 **22** percent, that's as good as anywhere in the world.

16:51:18 **23** **Q.** Well that's similar to what McGovern did,

16:51:19 **24** isn't it? He just -- They stopped using one product,

16:51:23 **25** then used another and they did a comparison; correct?

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16:51:24 **1** **A.** Yeah. He left out all the issues related to

16:51:27 **2** confounding and bias, and --

16:51:28 **3** **Q.** In the Cleveland Clinic study; correct?

16:51:31 **4** **A.** No, no. The Cleveland Clinic has all the --

16:51:33 **5** they have a multivariate analysis before they put out

16:51:36 **6** their report.

16:51:37 **7** **Q.** Did they look at their infection rates

16:51:39 **8** overall during the time periods of 2013 and 2015?

16:51:42 **9** **A.** Did they do what?

16:51:43 **10** **Q.** Did they look at the infection rates

16:51:45 **11** overall, over all surgeries?

16:51:49 **12** **A.** Umm --

16:51:49 **13** **Q.** Do you know that, whether or not, whether

16:51:51 **14** they did that?

16:51:51 **15** **A.** This is -- I think it was all prosthetic

16:51:53 **16** joint is what I recall, Kurz.

16:51:56 **17** **Q.** You understand that Cleveland Clinic's a

16:51:57 **18** teaching hospital; correct?

16:51:58 **19** **A.** It is.

16:51:59 **20** **Q.** And they have a lot of residents; correct?

16:52:01 **21** **A.** Correct.

16:52:01 **22** **Q.** And infection rates may depend on the

16:52:03 **23** attending and the residents; correct?

16:52:05 **24** **A.** There's some data for that, sure.

16:52:06 **25** **Q.** There's a lot of data for that; correct?

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16:52:08 **1** **A.** Yeah.

16:52:09 **2** **Q.** And they didn't look at, you know, using the

16:52:11 **3** Mistral and the Bair Hugger at the same time, they

16:52:13 **4** looked at at different time periods; correct?

16:52:15 **5** **A.** That's true.

16:52:16 **6** **Q.** So there could be different physicians doing

16:52:17 **7** the surgeries; correct?

16:52:18 **8** **A.** Yeah.

16:52:19 **9** **Q.** Different residents?

16:52:20 **10** **A.** Yeah.

16:52:20 **11** **Q.** Okay. There could be different skin preps

16:52:26 **12** during those times in those two years?

16:52:28 **13** **A.** Yeah, I don't know the answer to that.

16:52:30 **14** **Q.** Exactly. We don't know the answer to that,

16:52:32 **15** do we? Okay.

16:52:34 **16** **A.** I don't. Somebody might.

16:52:35 **17** **Q.** We agree that --

16:52:37 **18** Could you agree with me that the difference

16:52:38 **19** was not statistically significant?

16:52:40 **20** **A.** Correct.

16:52:41 **21** **Q.** Okay. You're not offering those criticisms

16:52:44 **22** for -- for that study; are you?

16:52:45 **23** **A.** No. I would tell you right away exactly the

16:52:47 **24** data.

16:52:48 **25** **Q.** But you're not offering, so I had to

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16:52:52 **1** actually pull them out of you; correct?

16:52:53 **2** **A.** Well I gave --

16:52:53 **3** MR. COREY GORDON: Object to the form of

16:52:55 **4** the question.

16:52:55 **5** **Q.** Right?

16:52:55 **6** **A.** I was trying -- I mean I was trying to get

16:52:56 **7** your answer to, you know, is there any difference

16:52:58 **8** between the two devices.

16:53:01 **9** **Q.** And we haven't seen -- we haven't looked at

16:53:03 **10** the --

16:53:04 **11** This is just the poster presentation;

16:53:05 **12** correct?

16:53:07 **13** **A.** Yeah.

16:53:08 **14** **Q.** Have you seen the manuscript?

16:53:10 **15** **A.** I think I've seen the manuscript, I'm trying

16:53:12 **16** to remember, or at least a draft of something. It

16:53:15 **17** might be just an enlarged poster.

16:53:18 **18** **Q.** Well which was it? Did you see --

16:53:19 **19** I want to talk either about the manuscript

16:53:21 **20** or the poster. Which one you want to talk about?

16:53:23 **21** **A.** Let's talk about the poster is fine.

16:53:24 **22** **Q.** Have you looked at the manuscript?

16:53:26 **23** **A.** I think I saw more data than just the

16:53:29 **24** poster, yeah.

16:53:29 **25** **Q.** Okay. What data else did you see?

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16:53:31 **1** **A.** What?

16:53:32 **2** **Q.** What other data did you see?

16:53:34 **3** **A.** Besides what?

16:53:35 **4** **Q.** I mean, what data did you see about that

16:53:37 **5** study with respect to the -- the Cleveland Clinic

16:53:43 **6** study besides the poster?

16:53:45 **7** **A.** Well I'm not sure I saw anything, but I

16:53:47 **8** thought I saw an expanded poster, I guess. I don't --

16:53:51 **9** I don't know.

16:53:51 **10** **Q.** Is it in your box of documents?

16:53:55 **11** **A.** I hope so.

16:54:00 **12** MS. ZIMMERMAN: I didn't see it. I could

16:54:01 **13** be wrong.

16:54:02 **14** THE WITNESS: Yeah, I'm sorry.

16:54:03 **15** MS. ZIMMERMAN: No. No. That's all right.

16:54:05 **16** **Q.** By the way, are there -- are there documents

16:54:07 **17** that you did not print up that you looked on -- that

16:54:09 **18** you have on your computer?

16:54:11 **19** **A.** No.

16:54:12 **20** **Q.** So every document you reviewed you printed

16:54:15 **21** up and highlighted or have done something with it.

16:54:16 **22** **A.** Yeah. I don't like to read stuff on the

16:54:19 **23** computer.

16:54:19 **24** **Q.** Okay.

16:54:19 **25** **A.** I'm old.

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16:54:26 **1** MR. COREY GORDON: Gabe, I'll just

16:54:27 **2** represent, he hasn't -- the only thing he's seen is

16:54:30 **3** what was attached to Mont's report. There is no --

16:54:32 **4** however you want to characterize it, there's no other

16:54:34 **5** data that he or I or anyone connected with the

16:54:38 **6** plaintiffs -- or with the -- with this litigation has

16:54:40 **7** seen.

16:54:45 **8** **Q.** So you're sitting here advocating for the

16:54:48 **9** Bair Hugger as a better device than the Mistral?

16:54:51 **10** **A.** I'm not advocating for them. I'm saying

16:54:54 **11** that after review of the literature I've come to the

16:54:56 **12** conclusion that the Bair Hugger is not linked in any

16:54:59 **13** way to harm.

16:55:03 **14** **Q.** Okay. And what about -- I mean -- Strike

16:55:07 **15** that.

16:55:08 **16** But with respect to patient warming, as long

16:55:13 **17** as the patient is kept warm, you don't care what

16:55:17 **18** method is used; correct?

16:55:18 **19** **A.** Right now I think there are no data to show

16:55:21 **20** that if the patients are warmed by anything else,

16:55:24 **21** particularly after the Kurz study, you have that

16:55:27 **22** warmer as an additional one. It looked the same.

16:55:31 **23** **Q.** Which warmer?

16:55:31 **24** **A.** The HEPA -- the forced-air warmer. So

16:55:37 **25** that's probably the best data I could point to.

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16:55:39 **1** **Q.** Are you aware of the CDC indicating that  
 16:55:42 **2** there should be nothing in the OR that blows air?  
 16:55:45 **3** **MR. COREY GORDON:** Object to the form of  
 16:55:45 **4** the question, mis --  
 16:55:45 **5** **A.** I've read --  
 16:55:46 **6** **MR. COREY GORDON:** -- misstates the --  
 16:55:49 **7** mischaracterizes the evidence.  
 16:55:50 **8** **A.** I've read the document where they said that,  
 16:55:56 **9** and actually looked at their in-progress, I guess,  
 16:56:02 **10** guideline from December 2016, and they really talk  
 16:56:06 **11** about the air-water interface when they're giving that  
 16:56:10 **12** statement.  
 16:56:11 **13** I should also say that, because I wanted to  
 16:56:14 **14** be sure, I called the director of the CDC's quality  
 16:56:22 **15** healthcare, I forget what the -- that whole division  
 16:56:25 **16** that oversees HICPAC, and she told me they -- you  
 16:56:29 **17** know, this wasn't pertaining to forced-air warming, it  
 16:56:33 **18** was worry -- their big concern was when, you know, the  
 16:56:39 **19** heater-cooler unit was identified as a really source  
 16:56:42 **20** of serious infection.  
 16:56:44 **21** **Q.** What was her name?  
 16:56:46 **22** **A.** It is Denise A. Cardo.  
 16:56:48 **23** **Q.** How do you spell that, for the court  
 16:56:50 **24** reporter?  
 16:56:51 **25** **A.** C-A-R-D-O.

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16:56:52 **1** **Q.** And when did you contact her?  
 16:56:55 **2** **A.** In the last couple weeks.  
 16:56:58 **3** **Q.** Did you contact her at the request of  
 16:57:00 **4** counsel?  
 16:57:00 **5** **A.** No. They didn't know I did that.  
 16:57:03 **6** **Q.** Okay. Did you bill it on your -- in your  
 16:57:06 **7** invoice?  
 16:57:06 **8** **A.** No, I didn't.  
 16:57:08 **9** **Q.** Okay. And do you have a record of this  
 16:57:11 **10** conversation?  
 16:57:14 **11** **A.** No, I don't.  
 16:57:16 **12** **Q.** How did you get her phone number?  
 16:57:19 **13** **A.** Called CDC, got ahold of her former  
 16:57:24 **14** assistant, because the numbers don't carry over  
 16:57:28 **15** sometime when there's some movement, and she said,  
 16:57:31 **16** well you need to talk to this person's assistant.  
 16:57:33 **17** Gave me the assistant, I left a message and asked her  
 16:57:37 **18** if there was a good time when I could call.  
 16:57:51 **19** **MR. ASSAAD:** Take a break?  
 16:57:52 **20** **THE REPORTER:** Please. Thank you.  
 16:57:54 **21** (Recess taken from 4:57 to 5:05 p.m.)  
 17:05:43 **22** **BY MR. ASSAAD:**  
 17:06:07 **23** **Q.** Doctor, turning to page 62?  
 17:06:21 **24** **A.** Okay.  
 17:06:27 **25** **Q.** 62 begins your critique of the McGovern

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17:06:31 **1** study; correct?  
 17:06:32 **2** **A.** The clinical arm.  
 17:06:34 **3** **Q.** Yes. Of the McGovern study; correct?  
 17:06:36 **4** **A.** Yeah. Yes.  
 17:06:37 **5** **Q.** And you go on for about, from page 62 to  
 17:06:48 **6** page 68; correct?  
 17:06:50 **7** **A.** Let me see. Yes.  
 17:06:56 **8** **Q.** You did not do a critical critique of any  
 17:07:02 **9** other study that -- that you looked at, such as you  
 17:07:07 **10** did with the McGovern study; correct?  
 17:07:09 **11** **A.** That's probably true.  
 17:07:10 **12** **Q.** Okay. You didn't do any critiques of --  
 17:07:14 **13** (Cell phone interruption.)  
 17:07:19 **14** **MR. COREY GORDON:** Sorry.  
 17:07:19 **15** **Q.** -- the Sessler study we just looked at;  
 17:07:22 **16** correct?  
 17:07:22 **17** **A.** True.  
 17:07:23 **18** **Q.** You didn't do any critical critiques of the  
 17:07:25 **19** Huang study; correct?  
 17:07:26 **20** **A.** Yeah.  
 17:07:26 **21** **Q.** Okay. Or the Moretti study; correct?  
 17:07:32 **22** **A.** Yes.  
 17:07:32 **23** **Q.** Okay. But you decided to have a meeting  
 17:07:36 **24** with Dr. Borak and Dr. Holford and yourself to discuss  
 17:07:42 **25** the McGovern study; correct?

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17:07:44 **1** **MR. COREY GORDON:** Object to the form of  
 17:07:47 **2** the question.  
 17:07:47 **3** **A.** I mean, I was told -- asked to come to a  
 17:07:49 **4** meeting to meet them. That's really what there was,  
 17:07:51 **5** and we did discuss the study, yes, very much.  
 17:07:53 **6** **Q.** How long did you --  
 17:07:55 **7** It was the majority of your discussions;  
 17:07:56 **8** correct?  
 17:07:57 **9** **A.** Probably, yeah.  
 17:07:58 **10** **Q.** Okay. And you all got together and figured  
 17:08:01 **11** out a way to discredit the McGovern study; correct?  
 17:08:03 **12** **MR. COREY GORDON:** Object to the form of  
 17:08:04 **13** the question.  
 17:08:04 **14** **A.** I don't know if I would have used that term.  
 17:08:06 **15** To look at it critically.  
 17:08:09 **16** **Q.** To look at the study critically; correct?  
 17:08:12 **17** **A.** Yes. Yeah.  
 17:08:17 **18** **Q.** And let me ask you this. Prior to agreeing  
 17:08:21 **19** to be an expert in this case did you look at the  
 17:08:23 **20** McGovern study?  
 17:08:25 **21** **A.** No. I don't think I --  
 17:08:27 **22** **Q.** Okay.  
 17:08:28 **23** **A.** -- knew about it.  
 17:08:29 **24** **Q.** Did you --  
 17:08:30 **25** Did you do any research to determine whether

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17:08:32 **1** or not you agreed with the -- with the defense in this  
 17:08:35 **2** case before you agreed to be an expert?  
 17:08:39 **3** **A.** I spent -- no, just a couple of days, you  
 17:08:42 **4** know. So I told you the -- one thing was the timing  
 17:08:44 **5** was good, it was interesting, it was a single case.  
 17:08:50 **6** And I thought, well, you know, it might be interesting  
 17:08:53 **7** to look at this, particularly if you're really just  
 17:08:57 **8** asked to learn and they pay you to learn, and that's  
 17:09:01 **9** how I thought about it.  
 17:09:03 **10** **Q.** Well they didn't pay you to learn, they paid  
 17:09:05 **11** you to be an expert for them in this case.  
 17:09:08 **12** **MR. COREY GORDON:** Object to the form of  
 17:09:08 **13** the question, lack of foundation, mischaracterizes  
 17:09:10 **14** the evidence.  
 17:09:11 **15** **Q.** It's your understanding that 3M hired you  
 17:09:13 **16** just to learn?  
 17:09:15 **17** **A.** 3M didn't hire me.  
 17:09:17 **18** **Q.** The attorneys representing --  
 17:09:19 **19** **A.** The attorneys did, yeah.  
 17:09:20 **20** **Q.** And who do you think was paying the  
 17:09:22 **21** attorneys?  
 17:09:23 **22** **A.** 3M.  
 17:09:23 **23** **Q.** Okay. So it's your opinion that 3M or the  
 17:09:27 **24** attorneys hired you just to learn?  
 17:09:28 **25** **A.** No. You just asked me why I sort of got  
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17:09:32 **1** involved, because this is really why.  
 17:09:34 **2** **Q.** Okay.  
 17:09:34 **3** **A.** To get a task where you're actually  
 17:09:37 **4** reviewing the literature and getting paid for it --  
 17:09:40 **5** **Q.** Well --  
 17:09:41 **6** **A.** -- as well, so.  
 17:09:42 **7** **Q.** -- you charged \$300,000 or -- in this case;  
 17:09:45 **8** correct?  
 17:09:45 **9** **A.** Yeah.  
 17:09:46 **10** **Q.** Okay. And if you were not going to side  
 17:09:50 **11** with the defendant with respect to what their position  
 17:09:55 **12** is in the Bair Hugger, you would agree with me that  
 17:10:01 **13** they probably wouldn't pay you \$300,000.  
 17:10:03 **14** **MR. COREY GORDON:** Object to the form of  
 17:10:04 **15** the question, argumentative, lack of foundation.  
 17:10:07 **16** **A.** You'll have to ask the -- you know, the  
 17:10:09 **17** legal team what they would have done if --  
 17:10:09 **18** **Q.** At what point --  
 17:10:12 **19** **A.** -- I mean at -- at some point, if I  
 17:10:15 **20** disagreed, it would be down there. I went -- As you  
 17:10:18 **21** know in my report, I've tried to put down what I  
 17:10:20 **22** learned, and again I'll give the phrase, read 'em and  
 17:10:25 **23** weep. That's what --  
 17:10:25 **24** **Q.** At what point in time did you make the  
 17:10:28 **25** determination that the Bair Hugger doesn't increase  
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17:10:29 **1** the risks of periprosthetic surgical -- periprosthetic  
 17:10:33 **2** joint infection?  
 17:10:33 **3** **A.** You talking about generally, or in the first  
 17:10:35 **4** case, or what?  
 17:10:36 **5** **Q.** In the life of Dr. Wenzel.  
 17:10:41 **6** **MR. COREY GORDON:** Object to the form of  
 17:10:41 **7** the question.  
 17:10:44 **8** **A.** I don't know exactly when, but towards the  
 17:10:47 **9** time of my report on -- on the first case I said I  
 17:10:51 **10** couldn't find any information that would really link  
 17:10:55 **11** that infection to the Bair Hugger. Got more  
 17:10:59 **12** complicated, as you know, very quickly, and I was  
 17:11:03 **13** surprised how -- how -- how the numbers grew.  
 17:11:07 **14** **Q.** Assuming that the majority of periprosthetic  
 17:11:18 **15** joint infections are caused by airborne contamination,  
 17:11:25 **16** would that affect your opinions in this case?  
 17:11:27 **17** **MR. COREY GORDON:** Object to the form of  
 17:11:29 **18** the question, incomplete hypothetical, assumes facts  
 17:11:32 **19** not in evidence.  
 17:11:33 **20** **A.** It's hard for me to answer that because it's  
 17:11:37 **21** not only a hypothetical, it's something that I just  
 17:11:38 **22** can't find any data for. I don't agree with --  
 17:11:41 **23** **Q.** I understand that.  
 17:11:42 **24** But just assume, and I'm allowed to ask you  
 17:11:45 **25** hypotheticals to test your -- your methodology and  
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17:11:47 **1** basis.  
 17:11:47 **2** **A.** Umm-hmm.  
 17:11:48 **3** **Q.** Assume that a hundred percent of  
 17:11:54 **4** periprosthetic joint infections are caused by airborne  
 17:11:57 **5** contamination in the operating room. Would that  
 17:12:00 **6** affect your opinion whether or not the Bair Hugger  
 17:12:03 **7** increases the risk of periprosthetic joint infections?  
 17:12:06 **8** **A.** So the data are the --  
 17:12:07 **9** **MR. COREY GORDON:** Same objections.  
 17:12:08 **10** **THE WITNESS:** Yeah. I'm sorry.  
 17:12:11 **11** **A.** The data are the same whatever the  
 17:12:11 **12** assumption is that I would base my opinion on.  
 17:12:15 **13** **Q.** Well you were -- your assumption is that, I  
 17:12:20 **14** think it was 80 or 90 percent of periprosthetic joint  
 17:12:23 **15** infections are caused by the patient's flora.  
 17:12:25 **16** **A.** That's correct.  
 17:12:26 **17** **Q.** Okay. Assume that zero percent are caused  
 17:12:29 **18** by the patient's flora and a hundred percent are  
 17:12:32 **19** caused by contaminants in the air in the operating  
 17:12:34 **20** room. Would that affect your opinion based on the  
 17:12:37 **21** particle studies, Darouiche, Stocks, the neutral  
 17:12:42 **22** buoyant studies of whether or not the Bair Hugger  
 17:12:44 **23** increases the risk of periprosthetic joint infection?  
 17:12:47 **24** **MR. COREY GORDON:** Same objections.  
 17:12:48 **25** **A.** So for me the only clinical data you have is  
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17:12:52 **1** McGovern, and I would go through the McGovern study as  
 17:12:58 **2** critically as I did regardless of what assumption.  
 17:13:03 **3** **Q.** Well you agree with me that -- Strike that.  
 17:13:09 **4** You're aware of the Legg studies; correct?  
 17:13:13 **5** **A.** Yeah.  
 17:13:14 **6** **Q.** The particle and the neutrally buoyant  
 17:13:17 **7** helium bubbles; correct?  
 17:13:18 **8** **A.** Yeah, yeah.  
 17:13:19 **9** **Q.** And that shows that when the Bair Hugger is  
 17:13:21 **10** turned on particles and helium bubbles increase over  
 17:13:23 **11** the surgical site; correct?  
 17:13:26 **12** **A.** Yeah.  
 17:13:26 **13** **Q.** Okay. And you're aware of the McGovern  
 17:13:29 **14** study also did a neutrally buoyant bubble test;  
 17:13:32 **15** correct?  
 17:13:32 **16** **A.** Yes, I think that's right.  
 17:13:33 **17** **Q.** Okay. And you're aware of the Sessler  
 17:13:36 **18** study, and if you looked at the raw data it would show  
 17:13:37 **19** an increase in particles.  
 17:13:39 **20** MR. COREY GORDON: Object to the form of  
 17:13:41 **21** the question, mischaracterizes the evidence.  
 17:13:44 **22** **A.** So bubbles and particles --  
 17:13:44 **23** (Interruption by the reporter.)  
 17:13:44 **24** **Q.** Okay. Bubbles and particles?  
 17:13:44 **25** **A.** Bubbles and particles are surrogate markers  
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17:13:50 **1** for the real infection, and there were times when the  
 17:13:53 **2** Bair Hugger was on where the particles went up, the  
 17:13:56 **3** heat went up, the bubbles went up, yes.  
 17:13:59 **4** **Q.** Okay. So assuming that airborne  
 17:14:05 **5** contamination is -- Strike that.  
 17:14:05 **6** Assuming that with all these studies  
 17:14:08 **7** regarding increased particles, increased bubbles,  
 17:14:11 **8** okay, take into consideration Stocks' particle study  
 17:14:15 **9** and Darouiche's CFU study and periprosthetic joint  
 17:14:20 **10** infections, and assume that periprosthetic joint  
 17:14:27 **11** infections are caused by airborne contamination.  
 17:14:30 **12** Would that affect your opinions in this case of  
 17:14:33 **13** whether or not the Bair Hugger increases  
 17:14:34 **14** periprosthetic joint infections?  
 17:14:35 **15** MR. COREY GORDON: Object to the form of  
 17:14:36 **16** the question, incomplete hypothetical, assumes facts  
 17:14:38 **17** not in evidence.  
 17:14:39 **18** **A.** It's very hypothetical, and as I've told  
 17:14:43 **19** you, probably not because I would look at the McGovern  
 17:14:45 **20** study as the key clinical study that you're pointing  
 17:14:49 **21** to for the efficacy, or for the -- saying what you did  
 17:14:54 **22** about the Bair Hugger.  
 17:14:56 **23** **Q.** So if the -- if -- if the Bair Hugger...  
 17:15:01 **24** Let's make it even simpler.  
 17:15:03 **25** **A.** Yeah.  
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17:15:07 **1** **Q.** Still the same assumption that  
 17:15:09 **2** periprosthetic infections are caused by airborne  
 17:15:11 **3** contamination.  
 17:15:12 **4** **A.** Yeah.  
 17:15:12 **5** **Q.** Okay. If the Bair Hugger increases the  
 17:15:15 **6** bacterial load over the surgical site, would that  
 17:15:20 **7** affect your opinion of whether or not the Bair Hugger  
 17:15:22 **8** increases periprosthetic joint infections?  
 17:15:25 **9** **A.** Only if I could link the CFUs to infections  
 17:15:30 **10** in a straightforward way.  
 17:15:33 **11** **Q.** Similar to what Darouiche did but a much  
 17:15:34 **12** bigger study.  
 17:15:35 **13** **A.** Much bigger.  
 17:15:36 **14** **Q.** Okay. So if you could link CFUs to  
 17:15:41 **15** infections and the Bair Hugger increased the CFUs over  
 17:15:44 **16** the surgical site, that would affect your opinions of  
 17:15:47 **17** whether or not the Bair Hugger increased the risk of  
 17:15:49 **18** periprosthetic joint infections.  
 17:15:51 **19** **A.** Well in this hypothetical I'd want to know  
 17:15:52 **20** whether the -- whatever the assumptions were,  
 17:15:56 **21** including a hundred percent of infections from the  
 17:15:58 **22** air, does the Bair Hugger actually increase  
 17:16:01 **23** infections.  
 17:16:01 **24** **Q.** Well assume --  
 17:16:01 **25** **A.** That's the key question, not bubbles or  
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17:16:05 **1** particles.  
 17:16:06 **2** **Q.** So are you dismissing Darouiche's article?  
 17:16:08 **3** **A.** No.  
 17:16:08 **4** **Q.** Okay.  
 17:16:09 **5** **A.** I'd say that he said there is no causal  
 17:16:12 **6** relationship that he can identify here. You need a  
 17:16:15 **7** much bigger study.  
 17:16:17 **8** **Q.** That's --  
 17:16:19 **9** You think he said there was no causal  
 17:16:19 **10** relationship?  
 17:16:20 **11** **A.** I thought he -- he said that this isn't  
 17:16:23 **12** definite cause-and-effect. If I'm wrong, let me see  
 17:16:26 **13** it.  
 17:16:35 **14** **Q.** But just so I understand, my hypothetical is  
 17:16:39 **15** inaccurate because it's your opinion that 90 percent  
 17:16:44 **16** of these periprosthetic joint infections are caused by  
 17:16:48 **17** the patient's flora.  
 17:16:49 **18** **A.** Could be.  
 17:16:49 **19** MR. COREY GORDON: Object to the form of  
 17:16:52 **20** the question, mischaracterizes his testimony.  
 17:16:54 **21** **A.** I mean I -- I think we disagree. You know,  
 17:16:57 **22** I think that if you ask me where the origin of the  
 17:16:59 **23** infections are, I think it's the microbiome in a high  
 17:17:05 **24** proportion of patients. It could be as high as 90.  
 17:17:08 **25** **Q.** Okay. Could it be as low as 10 percent?  
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17:17:10 **1** **A.** No, I don't think so.  
 17:17:11 **2** **Q.** Greater than 50 percent?  
 17:17:14 **3** **A.** Absolutely.  
 17:17:14 **4** **Q.** Greater than 70 percent?  
 17:17:14 **5** **A.** Somewhere between 70 and 90.  
 17:17:15 **6** **Q.** Okay. One of your criticisms on McGovern is  
 17:17:59 **7** that you look -- you state that they changed  
 17:18:02 **8** antibiotics during the study period; correct?  
 17:18:05 **9** **A.** That's true.  
 17:18:07 **10** **Q.** Okay. Did you look at the effect of the  
 17:18:15 **11** prophylactic antibiotics gentamicin plus teicoplanin  
 17:18:22 **12** as compared to just a -- I guess just the gentamicin  
 17:18:25 **13** that was used; correct?  
 17:18:26 **14** **A.** Yes.  
 17:18:27 **15** **Q.** Did you look at it's effect in other studies  
 17:18:29 **16** with respect to periprosthetic joint infections?  
 17:18:33 **17** **A.** The comparison, you mean, --  
 17:18:33 **18** **Q.** Yeah.  
 17:18:35 **19** **A.** -- in other studies?  
 17:18:37 **20** No, I don't think -- I didn't see any.  
 17:18:38 **21** **Q.** If other studies existed that indicate that  
 17:18:41 **22** there was -- they were pretty much the same type of  
 17:18:43 **23** effect on periprosthetic joint infections, would you  
 17:18:45 **24** agree with me that you could remove them as a  
 17:18:48 **25** confounding factor in the study?

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17:18:49 **1** MR. COREY GORDON: Object to the form of  
 17:18:52 **2** the question.  
 17:18:52 **3** **A.** Well, I mean, first of all, no one would  
 17:18:56 **4** design a study where you're going to change three or  
 17:18:59 **5** four or five things. That's background. And the  
 17:19:03 **6** gentamicin, as you know, is primarily targeting  
 17:19:06 **7** gram-negatives and susceptible Staph, no MRSA,  
 17:19:12 **8** probably very little of the coagulation negative  
 17:19:15 **9** Staph. And in, I think it was Reed's testimony, he  
 17:19:18 **10** said it increased the return to hemodialysis units  
 17:19:24 **11** because of course those you're going to see more renal  
 17:19:27 **12** failure, increased pneumonias. And Reed at the end  
 17:19:35 **13** said, you know, we're not going to go with this any  
 17:19:35 **14** more. If you add the teicoplanin you're going to get  
 17:19:39 **15** coagulation negative Staph and you're going to get  
 17:19:43 **16** MRSA, as well Staph aureus, and, you know, in case  
 17:19:47 **17** you're at a hospital where they have VRE,  
 17:19:51 **18** vanc-resistant enterococcus, it's going to cover that.  
 17:19:54 **19** I'm sorry. I'll take that away, it won't  
 17:19:56 **20** cover that. The last one.  
 17:20:01 **21** **Q.** Well I'm not really word worried about renal  
 17:20:04 **22** failure here, we're talking about periprosthetic joint  
 17:20:05 **23** infection.  
 17:20:05 **24** **A.** No, I understand --  
 17:20:05 **25** **Q.** Okay.

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17:20:07 **1** **A.** -- but there are a lot of reasons not to use  
 17:20:08 **2** that.  
 17:20:09 **3** **Q.** Okay. Do you know what the difference in  
 17:20:11 **4** the reduction of periprosthetic infection rates  
 17:20:14 **5** between the two different types of antibiotics used in  
 17:20:16 **6** McGovern?  
 17:20:17 **7** MR. COREY GORDON: Object to the form of  
 17:20:18 **8** the question.  
 17:20:18 **9** **A.** I think the --  
 17:20:21 **10** Well they were either the same or might have  
 17:20:24 **11** been a little higher in fact with the teicoplanin  
 17:20:27 **12** gent.  
 17:20:27 **13** **Q.** But do you know whether or not there was a  
 17:20:30 **14** statistically significant difference --  
 17:20:31 **15** **A.** Don't know.  
 17:20:32 **16** **Q.** -- between -- with respect to periprosthetic  
 17:20:34 **17** joint infections?  
 17:20:34 **18** **A.** No. I don't remember that.  
 17:20:35 **19** **Q.** Okay. So it is possible, if there's no  
 17:20:37 **20** statistical significant difference between the  
 17:20:41 **21** incident of periprosthetic joint infections with  
 17:20:42 **22** different antibiotic regimes, it would not be a  
 17:20:45 **23** confounding factor.  
 17:20:48 **24** MR. COREY GORDON: Object to the form of  
 17:20:48 **25** the question, incomplete hypothetical.

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17:20:50 **1** **A.** You know, I'm always going to tell you  
 17:20:52 **2** things are possible.  
 17:20:55 **3** **Q.** Well you're stating -- you're criticizing  
 17:20:57 **4** the study because they have switched the antibiotic --  
 17:21:03 **5** prophylactic antibiotics during the study period;  
 17:21:06 **6** correct?  
 17:21:06 **7** **A.** That's true.  
 17:21:06 **8** MR. COREY GORDON: Object to the form of  
 17:21:07 **9** the question.  
 17:21:07 **10** **Q.** Do you have any evidence that that change in  
 17:21:09 **11** the prophylactic antibiotics had an effect on the  
 17:21:11 **12** infection rates of the periprosthetic joint  
 17:21:13 **13** infections?  
 17:21:14 **14** **A.** If you hold the antibiotics and the  
 17:21:17 **15** thromboprophylaxis the same, the rates are one percent  
 17:21:20 **16** and one percent. Two with the confounders.  
 17:21:25 **17** **Q.** My question is: Do you have any evidence  
 17:21:26 **18** that the change in prophylactics have an effect on  
 17:21:32 **19** periprosthetic joint infections --  
 17:21:32 **20** MR. COREY GORDON: Objection --  
 17:21:34 **21** **Q.** -- in general?  
 17:21:36 **22** MR. COREY GORDON: Objection, asked and  
 17:21:38 **23** answered.  
 17:21:38 **24** **A.** That's the best I can offer you.  
 17:21:39 **25** **Q.** So you're looking at the McGovern study for

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17:21:43 **1** your opinion that the two different types of  
 17:21:45 **2** antibiotic regimes have an effect on periprosthetic  
 17:21:49 **3** joint infections.  
 17:21:50 **4** MR. COREY GORDON: Object to the form of  
 17:21:53 **5** the question.  
 17:21:53 **6** **A.** I don't know that I would say it that way.  
 17:21:58 **7** I don't remember exactly when you look just  
 17:22:00 **8** at the antibiotic and all the other things are still  
 17:22:02 **9** moving, what the rates were.  
 17:22:07 **10** **Q.** Well are you -- is there any article that  
 17:22:11 **11** you reviewed in your 300-some hours of literature  
 17:22:17 **12** review to indicate that there is a difference in  
 17:22:20 **13** infection rates between the two antibiotic regimes  
 17:22:24 **14** used in the McGovern study?  
 17:22:25 **15** MR. COREY GORDON: Object to the form of  
 17:22:26 **16** the question.  
 17:22:26 **17** **A.** No. I don't have any study I can point to  
 17:22:28 **18** for that.  
 17:22:29 **19** **Q.** Okay. Were you aware of -- Strike that.  
 17:23:20 **20** Figure 13 you're referring to --  
 17:23:32 **21** **A.** What page are you on?  
 17:23:34 **22** **Q.** Oh, page 67. You're relying on what Dr.  
 17:23:43 **23** Borak prepared; correct?  
 17:23:44 **24** **A.** Yeah. He created the graph, so I used it.  
 17:23:48 **25** **Q.** How many conversations did you have with Dr.  
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17:23:50 **1** Borak and Dr. Holford?  
 17:23:52 **2** **A.** Besides the meeting, not at all with  
 17:23:57 **3** Holford, and one conversation with Borak.  
 17:24:00 **4** **Q.** In the past year and a half?  
 17:24:02 **5** **A.** The whole time that we've known each other.  
 17:24:05 **6** **Q.** Okay. Did you take notes during your  
 17:24:10 **7** meeting with Dr. Borak and Dr. Holford?  
 17:24:13 **8** **A.** No. I don't think so -- Well I don't think  
 17:24:16 **9** so, no.  
 17:24:17 **10** **Q.** Okay. On page 72?  
 17:25:08 **11** **A.** Okay.  
 17:25:08 **12** **Q.** The highlighted section says: "In the  
 17:25:12 **13** discovery phase of the trial, it has been shown that 7  
 17:25:15 **14** studies showing safety of the Bair Hugger were not  
 17:25:17 **15** published, were kept secret."  
 17:25:19 **16** **A.** Yeah.  
 17:25:21 **17** **Q.** What makes you believe that they were kept  
 17:25:22 **18** secret?  
 17:25:25 **19** **A.** Because they were never published. They  
 17:25:27 **20** were data that were not favorable to Augustine, and  
 17:25:32 **21** why didn't he publish them?  
 17:25:34 **22** **Q.** That means he kept it secret?  
 17:25:36 **23** **A.** That's what I think happened.  
 17:25:37 **24** **Q.** So you think any study that people do that  
 17:25:39 **25** they decide not to publish is kept secret?  
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17:25:42 **1** **A.** No, but if you have seven that makes me  
 17:25:44 **2** suspicious.  
 17:25:45 **3** **Q.** Okay. So 3M has thousands of studies and  
 17:25:54 **4** tests done on the Bair Hugger that they never  
 17:25:56 **5** published, so are they keeping stuff secret?  
 17:25:59 **6** MR. COREY GORDON: Object to the form of  
 17:26:00 **7** the question, assumes facts not in evidence.  
 17:26:02 **8** **A.** I don't know how to answer that. I mean,  
 17:26:04 **9** what kind of studies are we talking about, were they  
 17:26:07 **10** comparis -- looking for harm?  
 17:26:10 **11** **Q.** Computational fluid dynamic studies.  
 17:26:12 **12** **A.** I don't know.  
 17:26:13 **13** MR. COREY GORDON: Same objections, also  
 17:26:14 **14** lack of foundation.  
 17:26:15 **15** **Q.** Schlieren studies.  
 17:26:17 **16** You know what Schlieren is?  
 17:26:19 **17** **A.** No.  
 17:26:19 **18** **Q.** Calculations of whether or not the Bair  
 17:26:21 **19** Hugger disrupts laminar flow. Have you seen those?  
 17:26:23 **20** **A.** No.  
 17:26:24 **21** **Q.** Okay. So are they keeping all their studies  
 17:26:33 **22** secret?  
 17:26:33 **23** MR. COREY GORDON: Object to the form of  
 17:26:35 **24** the question, assumes facts not in evidence, --  
 17:26:38 **25** **A.** I don't know.  
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17:26:37 **1** MR. COREY GORDON: -- lack of foundation.  
 17:26:43 **2** **Q.** Have you ever met Dr. Scott Augustine?  
 17:26:52 **3** **A.** Doctor who?  
 17:26:53 **4** **Q.** Scott Augustine?  
 17:26:54 **5** **A.** No, I haven't.  
 17:26:57 **6** **Q.** Do you have an opinion of Dr. Scott  
 17:26:59 **7** Augustine?  
 17:27:00 **8** MR. COREY GORDON: Object to the form of  
 17:27:02 **9** the question.  
 17:27:02 **10** **A.** As -- In what way, opinion as to --  
 17:27:04 **11** **Q.** As an inventor, as a doctor?  
 17:27:07 **12** **A.** Well he's creative, obviously. The guy, you  
 17:27:08 **13** know, invented the Bair Hugger and I -- I would say  
 17:27:11 **14** he's a real entrepreneur. I have a lot of criticisms  
 17:27:15 **15** of his most recent study, if that's what you mean.  
 17:27:19 **16** **Q.** That's not in your report, is it, sir?  
 17:27:20 **17** **A.** No.  
 17:27:34 **18** **Q.** Okay. Do you have any criticisms of the  
 17:27:35 **19** HotDog device?  
 17:27:38 **20** **A.** Of the device itself?  
 17:27:40 **21** **Q.** Yeah.  
 17:27:41 **22** **A.** I'm not aware -- No, I...  
 17:27:43 **23** No, I don't.  
 17:27:45 **24** **Q.** And you've seen studies that show that the  
 17:27:46 **25** HotDog is just as efficacious as the Bair Hugger in  
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17:27:50 **1** orthopedic surgeries.

17:27:52 **2** **A.** I haven't seen that. But what it show -- if

17:27:55 **3** you're talking about particles or stuff like that?

17:27:58 **4** **Q.** I'm talking about efficacy of warming

17:28:00 **5** patients.

17:28:00 **6** **A.** No. There -- I don't think there are any

17:28:02 **7** data.

17:28:26 **8** **Q.** Now is it my understanding that you would

17:28:29 **9** need a clinical study to -- Strike that.

17:28:36 **10** If a device contaminates the sterile field,

17:28:43 **11** you would need a clinical study to show that it caused

17:28:45 **12** harm?

17:28:46 **13** MR. COREY GORDON: Object to the form of

17:28:48 **14** the question, incomplete hypothetical.

17:28:52 **15** **A.** I would say that would be a signal that

17:28:56 **16** would lead to a study that we would see whether or not

17:29:00 **17** that signal with, let's say, particles equate to

17:29:05 **18** infection, and that's what I would want to have.

17:29:30 **19** **Q.** All right. You're a member of the

17:29:41 **20** International Society For Infectious Disease; correct?

17:29:43 **21** **A.** That's true.

17:29:44 **22** **Q.** Are you still a member?

17:29:45 **23** **A.** Yeah. You're a kind of a member forever.

17:29:47 **24** **Q.** Okay.

17:29:47 **25** (Wenzel Exhibit 13 marked for  
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17:29:47 **1** identification.)

17:29:47 **2** BY MR. ASSAAD:

17:30:01 **3** **Q.** Do you recognize this document?

17:30:03 **4** **A.** I do.

17:30:04 **5** **Q.** It's titled, "A Guide to Infection Control

17:30:06 **6** in the Hospital, Fourth Edition"; correct?

17:30:09 **7** **A.** Yes.

17:30:09 **8** **Q.** And you're the editor; correct?

17:30:11 **9** **A.** Yes.

17:30:11 **10** **Q.** And we discussed this doc -- we discussed

17:30:13 **11** this book before; correct?

17:30:14 **12** **A.** We did.

17:30:15 **13** **Q.** Okay. And you had --

17:30:19 **14** And you believe this is authoritative;

17:30:20 **15** correct?

17:30:21 **16** **A.** Yeah, with the context I gave you what we're

17:30:24 **17** trying to do in poor countries where the resources are

17:30:29 **18** just limited, we tried to come up with some key points

17:30:32 **19** for healthcare workers.

17:30:34 **20** **Q.** Are you saying this only applies to poor

17:30:35 **21** countries and not to the United States?

17:30:37 **22** **A.** No, but that was the major -- that was the

17:30:38 **23** major thrust.

17:30:40 **24** **Q.** But I would hope that you would treat, like,

17:30:43 **25** Third World countries the same as you would First  
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17:30:45 **1** World countries.

17:30:45 **2** **A.** I would.

17:30:46 **3** MR. COREY GORDON: Object to the form of

17:30:47 **4** the question.

17:30:48 **5** **Q.** So I want to turn to Chapter 21. I only

17:30:52 **6** printed up Chapter 21.

17:30:57 **7** **A.** Yes.

17:30:59 **8** **Q.** Let's look at page -- paragraph on the

17:31:04 **9** bottom of page 134 that starts with "exogenous"?

17:31:07 **10** **A.** Okay.

17:31:08 **11** **Q.** And this is --

17:31:10 **12** And you reviewed this before; correct?

17:31:11 **13** **A.** I did see this.

17:31:12 **14** **Q.** And you approved this for publication;

17:31:13 **15** correct?

17:31:13 **16** **A.** I did.

17:31:14 **17** **Q.** Okay. "Exogenous contamination of wounds is

17:31:17 **18** also important in the pathophysiology of SSIs,

17:31:21 **19** particularly for clean surgical procedures."

17:31:23 **20** Did I read that correctly?

17:31:24 **21** **A.** Yes.

17:31:24 **22** **Q.** And a clean surgical -- a clean surgical

17:31:27 **23** procedure would be a total hip or total knee

17:31:30 **24** arthroplasty; correct?

17:31:31 **25** **A.** That's correct.  
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17:31:32 **1** **Q.** "Airborne bacteria originating from the

17:31:34 **2** patient or the surgical team suffice to create SSI in

17:31:38 **3** these types of procedures, particularly when implants

17:31:41 **4** are being placed (example, total hip prostheses)."

17:31:44 **5** Did I read that correctly?

17:31:46 **6** **A.** You did.

17:31:46 **7** **Q.** Okay. Those are the surgeries that are at

17:31:48 **8** issue in this case; correct?

17:31:49 **9** **A.** Yes.

17:31:49 **10** **Q.** Okay. Airborne contamination well well

17:31:53 **11** affect other clean surgical procedures with long

17:31:55 **12** exposure times and large surface areas, period.

17:31:58 **13** Correct?

17:31:58 **14** **A.** Yes.

17:31:59 **15** **Q.** "The main source of airborne bacteria in the

17:32:01 **16** OR originate primarily from the skin of individuals in

17:32:04 **17** the room," period.

17:32:05 **18** Did I read that correctly?

17:32:06 **19** **A.** You did.

17:32:13 **20** **Q.** "The number of persons present in the OR as

17:32:16 **21** well as their level of activity, the type of surgery,

17:32:19 **22** the quality of air provided, the rate of air exchange,

17:32:22 **23** the quality of staff clothing, the quality of cleaning

17:32:26 **24** process and the level of compliance with infection

17:32:27 **25** control practices all influence airborne  
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17:32:31 **1** contamination," period.  
 17:32:32 **2** Did I read that correctly?  
 17:32:33 **3 A.** You did.  
 17:32:34 **4 Q.** And this is something that you agreed with  
 17:32:35 **5** at the time that it was published; correct?  
 17:32:37 **6 A.** Agreed that, yes.  
 17:32:39 **7 Q.** Okay. "Although these may seem trivial  
 17:32:44 **8** issues for contaminated procedures or dirty  
 17:32:46 **9** procedures, they are very important to consider in  
 17:32:49 **10** clean and clean-contaminated surgery," period.  
 17:32:52 **11** Did I read that correctly?  
 17:32:53 **12 A.** You did.  
 17:32:53 **13 Q.** And that's something that you yourself as  
 17:32:55 **14** the -- the main editor, published in 2008; correct?  
 17:33:00 **15 A.** We did.  
 17:33:02 **16** MR. ASSAAD: I have no more questions.  
 17:33:04 **17** MR. COREY GORDON: I'll just have a couple.  
 17:33:04 **18** EXAMINATION  
 17:33:04 **19** BY MR. COREY GORDON:  
 17:33:06 **20 Q.** Keep Exhibit 13 open. That paragraph that  
 17:33:09 **21** counsel was just reading from in that sec -- Go back  
 17:33:15 **22** to page 134.  
 17:33:17 **23 A.** Sure.  
 17:33:19 **24 Q.** Under "**Known Facts**."  
 17:33:22 **25 A.** Yes.

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17:34:33 **1** MR. COREY GORDON: I have nothing further.  
 17:34:34 **2** MR. ASSAAD: I have one more question.  
 17:34:34 **3** EXAMINATION  
 17:34:34 **4** BY MR. ASSAAD:  
 17:34:39 **5 Q.** Go to page 134.  
 17:34:40 **6 A.** Oh, okay.  
 17:34:47 **7 Q.** When you read, "Most SSIs arise from the  
 17:34:49 **8** patient's endogenous flora which contaminate the wound  
 17:34:52 **9** by direct contact." "Direct contact" is -- is by --  
 17:34:56 **10** by hand or some inanimate device; correct?  
 17:35:00 **11 A.** When I think of it I think that it's already  
 17:35:03 **12** there, as you know, we've talked about this before,  
 17:35:05 **13** and once the blade goes across that's direct contact  
 17:35:09 **14** with the wound. Now she may mean, in addition, you  
 17:35:13 **15** know, if there's a -- a scalpel that picks up part of  
 17:35:17 **16** the flora and then is used in the wound. I would have  
 17:35:21 **17** to go back and talk to her if -- what she meant more  
 17:35:25 **18** commonly, or both.  
 17:35:26 **19 Q.** But you understand bacteria -- when they  
 17:35:29 **20** talk about direct contact with bacteria, it's  
 17:35:31 **21** transferring it from, like, your hand to a device or  
 17:35:33 **22** your hand to a wound; correct?  
 17:35:35 **23 A.** That's correct.  
 17:35:37 **24** MR. COREY GORDON: Object to the form of the  
 17:35:37 **25** question.

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17:33:22 **1 Q.** Could you just read the first sentence,  
 17:33:24 **2** please?  
 17:33:25 **3 A.** "Most SSIs arises from the patient's  
 17:33:28 **4** endogenous flora which contaminate the wound by direct  
 17:33:31 **5** contact."  
 17:33:32 **6 Q.** Thank you.  
 17:33:33 **7** And if you could turn to page 138?  
 17:33:39 **8 A.** Yeah.  
 17:33:39 **9 Q.** And could you -- in the -- just read that  
 17:33:42 **10** first paragraph under "**Controversial Issues**" there.  
 17:33:44 **11 A.** "ORs equipped with laminar airflow system  
 17:33:48 **12** provide almost sterile air, yet a very few studies  
 17:33:52 **13** show a significant decrease in SSI rates for surgical  
 17:33:56 **14** procedures performed in this type of OR."  
 17:34:01 **15 Q.** And go ahead and read the rest of the  
 17:34:03 **16** paragraph.  
 17:34:03 **17 A.** "Furthermore, some of these experiments did  
 17:34:06 **18** not control for the antimicrobial regimen received as  
 17:34:10 **19** surgical prophylaxis, thus precluding any conclusion  
 17:34:13 **20** on the exact role of the laminar flow system.  
 17:34:16 **21** Therefore, at this time no recommendation can be made  
 17:34:19 **22** for the use of laminar flow ventilation in" the "ORs."  
 17:34:25 **23 Q.** This was published in 2008; is that right?  
 17:34:31 **24 A.** I think that's right. Yes.  
 17:34:33 **25 Q.** Thank you.

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17:35:37 **1** MR. ASSAAD: That's all I have.  
 17:35:38 **2** THE WITNESS: Okay.  
 17:35:38 **3** MR. COREY GORDON: We're done. We'll read  
 17:35:40 **4** and sign.  
 17:35:43 **5** THE REPORTER: Off the record.  
 17:35:44 **6** (Deposition concluded at 5:35 p.m.)  
**7**  
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C E R T I F I C A T E

I, Debby J. Campeau, hereby certify that I am qualified as a verbatim shorthand reporter; that I took in stenographic shorthand the testimony of RICHARD P. WENZEL, M.D., MSc., at the time and place aforesaid; and that the foregoing transcript consisting of 368 pages is a true and correct, full and complete transcription of said shorthand notes, to the best of my ability.

Dated at Lino Lakes, Minnesota, this 9th day of August, 2017.

DEBBY J. CAMPEAU  
Notary Public

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S I G N A T U R E P A G E

I, RICHARD P. WENZEL, M.D., MSc., the deponent, hereby certify that I have read the foregoing transcript, consisting of 368 pages, and that said transcript is a true and correct, full and complete transcription of my deposition, except per the attached corrections, if any.

PAGE	LINE	CHANGE/REASON FOR CHANGE
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9	_____	_____
10	_____	_____
11	_____	_____
12	_____	_____
13	_____	_____
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18	_____	_____
19	_____	_____

20	Date	Signature of Witness
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WITNESS MY HAND AND SEAL this \_\_\_\_\_ day of \_\_\_\_\_, 2017.

(DJC) \_\_\_\_\_

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